

4/9/4 (Item 3 from file: 16)
DIALOG(R) File 16:Gale Group PROMT(R)
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07521264 Supplier Number: 63041247 (THIS IS THE FULLTEXT)
Sybase's iAnywhere Solutions Technology Powers Leading Handheld E-Business Solutions.
PR Newswire, p0974
June 29, 2000
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 808
TEXT:

EMERYVILLE, Calif., June 29 /PRNewswire/ --
iAnywhere Solutions(TM), Inc., a subsidiary of Sybase, Inc. (Nasdaq: SYBS) today recognized several leading developers that are among the first in their industries to make handheld e- business solutions a reality in today's business world. These innovative organizations -- including GeoDyn Research Group, Strategic Technologies and TAMSoft -- are developing applications that extend critical enterprise information to handheld users, anywhere, anytime. Powered by Sybase(R) SQL Anywhere(R) Studio, the industry leading mobile computing technology, these Palm Computing platform and Windows CE-based applications enable organizations to capture information at a lower cost, increase employee productivity and improve customer service. In a separate announcement, the company also announced its continued market leadership (see press release "Sybase's iAnywhere Solutions Leads Mobile Database Market for Fourth Consecutive Year").

Sybase's iAnywhere Solutions works with over 500 application partners and powers next-generation handheld applications for industry-leading organizations across industries from healthcare to government. The growth of handheld devices will certainly continue to increase, according to industry experts. Internet research and advisory firm Jupiter Communications forecasts that 12 million Internet-enabled PDAs will be in use by 2003, up from 5.2 million last year.

"These companies are delivering innovative, real world solutions today to realize the benefits of conducting e-business anywhere, anytime," said Brian Vink, vice president of marketing, iAnywhere Solutions. "We're extremely pleased that these forward thinking organizations are partnering with Sybase to drive the growth of enterprise applications deployed on Internet-enabled PDAs and smart devices."

Strategic Technologies Provides SFA on Handhelds

Strategic Technologies equips pharmaceutical companies with sales force effectiveness and pharmaceutical relationship management solutions. Its PhasTrak(TM) application running on handheld devices, powered by SQL Anywhere Studio, offers sales representatives quick access to their account information from wherever they may be -- on the road or at a physician's office. "Strategic Technologies' PhasTrak uses the power of Sybase mobile technology to give pharmaceutical sales representatives strategic advantage at their finger tips. As a breakthrough tool for improving call success, PhasTrak enables representatives to receive high-impact insight, seconds before a call, when they can best take advantage of it. The convenient, highly mobile design also means they will use this technology more than traditional laptop solutions," said John Moran, Director of Product Marketing for Strategic Technologies.

TAMSoft International Suits Sales Representatives with Handheld Technology

Designed to increase efficiency and maximize sales potential, TAMSoft (Territory Account Management Software) Representative is a full-function sales force automation application using SQL Anywhere Studio running on handheld devices. TAMSoft International created the handheld application to allow sales representatives to manage their contact databases, input sales orders and access customer purchasing history. Sales representatives save time by quickly inputting customers' orders into their handhelds and can more effectively interact with the customer.

GeoDyn Research Group Arms Military with Innovative Handheld Application

Immediate access to information saves lives in the military. With

this mission in mind, GeoDyn developed FxView, a framework-based system application. The situational awareness variant of FxView is an application that gives military personnel access to up-to-the-minute information on battlefield conditions, including terrain maps and locations of hostile, neutral, and friendly forces. Other framework variants of FxView are to include supply line, medical, and other logistical information that helps military personnel safely complete their missions. Powered by SQL Anywhere Studio, the FxView application runs on handheld devices and enables bidirectional flow of information between military command centers and soldiers in the field. For example, medical corpsmen can update the medical center as wounded soldiers are being transported, so that hospital personnel can begin preparation for treatment immediately.

About Sybase's iAnywhere Solutions

iAnywhere Solutions, a subsidiary of Sybase, Inc., is dedicated to becoming the premier provider of mobile and wireless e-Business, or "m-Business," products and services. Its SQL Anywhere Studio technology is a comprehensive package that provides data management and enterprise synchronization to enable the rapid development and deployment of distributed e-Business solutions. According to GartnerGroup's Dataquest, Sybase is the mobile database market leader for the fourth consecutive year with 61 percent market share. For more information, please visit: www.sybase.com/ianywheresolutions.

About Sybase, Inc.

With headquarters in Emeryville, CA, Sybase, Inc. is one of the largest global independent software companies. Sybase helps businesses integrate, manage and deliver applications, content and data anywhere they are needed. The company's customers represent the industries leading the global economy, with strong concentrations in financial services, the public sector, telecommunications, media and health care. The company is leveraging core enterprise product strengths to capitalize on the emerging enterprise information portal market to provide dependable solutions that deliver on the promise of e-Business. The company's web address is: <http://www.sybase.com>.

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COMPANY NAMES: *iAnywhere Solutions; Strategic Technologies Inc.; Sybase Inc.

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SIC CODES: 7372 (Prepackaged software)

NAICS CODES: 51121 (Software Publishers)

TICKER SYMBOLS: SYBS

SPECIAL FEATURES: COMPANY

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07535246 Supplier Number: 63169479 (THIS IS THE FULLTEXT)
IMS HEALTH Strategic Technologies Signs Agreement With Ventiv Health in the U.K. for PhasTrak Hand-Held Activity Management Solution.
Business Wire, p2389

July 6, 2000
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
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Business/Health & Science Editors
LONDON--(BW HealthWire)--July 6, 2000
IMS HEALTH (NYSE: RX) today announced that its IMS HEALTH Strategic Technologies unit (scheduled to spin-out of IMS HEALTH) has signed a three-year agreement with Ventiv Health, Inc. (Nasdaq: VTIV) to support its contract sales force in the U.K. with Strategic Technologies' PhasTrak(TM) hand-held Activity Management solution, part of its Pharmaceutical Relationship Management (PRM) solution. IMS HEALTH is the world's leading provider of information solutions to the pharmaceutical and healthcare industries.

"We have successfully deployed PhasTrak systems to several thousand Ventiv contract sales reps in the U.S. and they have enabled us to improve efficiency and market intelligence - thereby increasing our clients' return on investment," said Patrick Fourteau, managing director, Ventiv Health U.K. "IMS HEALTH Strategic Technologies is the global leader in PRM applications for hand-held devices using Microsoft Windows CE, so extending the benefits of this solution to our team in the U.K. makes a lot of sense."

PhasTrak is a powerful, mobile solution for Microsoft Windows CE-based Handheld PCs, designed to give pharmaceutical companies a more effective way to build customer relationships and improve return on sales investment. PhasTrak takes advantage of the latest relational database technology and ActiveX components, making it the first standalone hand-held solution to give pharmaceutical industry users the ability to better understand individual prescribing patterns and opportunities and deliver more effective messages and promotions.

More than 10,000 pharmaceutical sales representatives worldwide today use IMS HEALTH Strategic Technologies hand-held PRM solutions.

"We are pleased to support Ventiv Health contract sales representatives in the U.K. marketplace with our PhasTrak Activity Management PRM solution," said Keith Woodward, vice president, marketing and product management, Europe, IMS HEALTH Strategic Technologies. "The functionality, power and mobility of PhasTrak enables representatives to gain real insight into their customer and call data, and record the richness of the customer contact almost as it happens. This information is then shared with head office and colleagues."

Ventiv Health, Inc. is a unique sales and marketing partner providing innovative strategic and tactical solutions globally for the pharmaceutical and life sciences industry. The Company offers a broad range of integrated sales and marketing services including: specially designed strategic marketing plans, educational programs targeted to physicians, sales execution, and consulting and analytics. The Company reported \$345 million in 1999 revenue. Clients include many of the leading pharmaceutical and life sciences companies, including: AstraZeneca, Aventis, Bausch & Lomb, Baxter, Bayer, Bristol-Myers Squibb, Eli Lilly, Endo Pharmaceuticals, Glaxo Wellcome, Johnson & Johnson, 3M HealthCare, Merck, Novartis, Pfizer and Pharmacia, Roche, SmithKline Beecham and Wyeth. Ventiv Health operates across the United States, France, Germany, United Kingdom, Austria and Hungary. For more information on Ventiv Health, visit <http://www.ventiv.com>.

IMS HEALTH Strategic Technologies is a leader in developing hand-held personal computer (HPC) solutions for the pharmaceutical industry. By working closely with industry leaders, innovative technology is employed to quickly deliver extensive customer and product information to mobile sales

forces. Through a unique combination of tailored and integrated software, customer databases and expert service and support, IMS HEALTH Strategic Technologies is the global market leader in the implementation of customized Pharmaceutical Relationship Management (PRM) solutions. PRM is IMS HEALTH Strategic Technologies' proprietary adaptation of customer relationship management technologies to meet the specific needs of the pharmaceutical industry. IMS HEALTH Strategic Technologies focuses solely on the pharmaceutical industry, using its unmatched industry knowledge to implement effective solutions that help clients achieve maximum return on their sales and marketing investments. Additional information is available at <http://www.st.imshealth.com>.

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COMPANY NAMES: *IMS Health Strategic Technologies; Ventiv Health Inc.

PRODUCT NAMES: *3573200 (Computer Peripherals)

INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)

SIC CODES: 3577 (Computer peripheral equipment, not elsewhere classified)

NAICS CODES: 33411 (Computer and Peripheral Equipment Manufacturing)

SPECIAL FEATURES: COMPANY

4/9/11 (Item 1 from file: 256)
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00125127 DOCUMENT TYPE: Review

PRODUCT NAMES: PhasTrak (010855); SQL Anywhere Studio (765643);
CARS/Medicaid (756075)

TITLE: KM: healthy RX for pharmaceutical firms
AUTHOR: Barron, Janet J
SOURCE: KM World, v9 n4 p14(1) May 2000
ISSN: 1060-894X
HOMEPAGE: <http://www.KMonline.com>

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

many.com's CARS/Medicaid, IMS Health's now SYNAVANT's PhasTrak, and Sybase's SQL Anywhere Studio are highlighted in a discussion of knowledge management (KM) technology as used in the pharmaceutical industry. A KM system helps resolve complexities built into the many steps required to gather information, track drugs, market drugs, regulate drugs, and account for drugs. Pharmaceutical relationship management (PRM) is satisfactorily combined with customer relationship management (CRM) to create a wider initiative. I-many.com's CARS/Medicaid provides assistance in dealing with many types of policies for Medicaid rebates and a plan's supplemental agendas, along with the expanding non-standardized state programs market. One user says processing will be much faster because the application allows users to process claims from many states concurrently. The Windows environment also allows processing managers to multitask, which offers greater speed and efficiency. IMS Health Strategic Technologies, the pharmaceutical branch of IMS Health, provides customized pharmaceutical relationship management solutions using knowledge management to get maximum return on investment. PhasTrak is a handheld device for sales staff. Its embedded database technology assists in account prospecting and targeting and processing electronic signatures, among other features. Sybase partners with IMS, providing Sybase SQL Anywhere Studio, which allows developers to embed a full-functioned database into enterprise applications and to deploy them to clients without the help of a database administrator.

COMPANY NAME: SYNAVANT Inc (685895); Sybase Inc (414981); I-many (701122)
DESCRIPTORS: CRM; Database Management; Government Regulations; Health Insurance; Knowledge Management; Pharmaceuticals; Research & Development
REVISION DATE: 20020630

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06947089 Supplier Number: 58662876 (THIS IS THE FULLTEXT)
**IMS HEALTH Strategic Technologies Launches PhasTrak; New Hand-Held Solution
for Improving Pharmaceutical Customer Relationships.**

Business Wire, p1460

Jan 19, 2000

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 864

TEXT:

Business/Health & Science Editors

LONDON--(BW HealthWire)--January 19, 2000

PhasTrak To Be Installed for Customers on Three Continents
by First Quarter 2000

IMS HEALTH (NYSE: RX) today announced that its Strategic Technologies unit has launched PhasTrak(TM), a powerful, mobile solution for Microsoft Windows CE-based Handheld PCs designed to give pharmaceutical companies a more effective way to build customer relationships and improve return on sales investment. PhasTrak takes advantage of the latest relational database technology and ActiveX components, making it the first standalone hand-held solution to give pharmaceutical industry users the ability to better understand individual prescribing patterns and opportunities and deliver more effective messages and promotions. IMS HEALTH is the world's leading provider of information solutions to the pharmaceutical and healthcare industries.

PhasTrak is now available in the U.S., Europe and Latin America, with further worldwide expansion planned in the first quarter of 2000. Currently, six major companies and more than 10,000 users around the world rely on hand-held solutions from IMS HEALTH Strategic Technologies.

"Having instant and intelligent access to the right information at the right time is critical to the success of the growing number of mobile professionals," said Jonathan Roberts, general manager of marketing and development for Windows CE at Microsoft Corporation. "PhasTrak is an excellent example of how Windows CE can work for customers. It delivers a leading-edge application that works hard to help pharmaceutical company representatives serve their customers more efficiently and effectively."

According to IMS HEALTH Strategic Technologies, the hand-held segment accounts for about 20 percent of the total U.S. sales force automation market on a user basis, and is projected to grow faster than the overall market in the next two years. Approximately 13,000 representatives today rely on a palm or hand-held PC-size devices to document call-sample detail information.

"We asked field-based pharmaceutical company sales representatives what features they use most in their current hand-held devices, and what they would like to see improved," said Ronald Brown, chief executive officer, IMS HEALTH Strategic Technologies. "Based on this feedback, we developed a product that gives sales representatives the convenience of a hand-held device that performs daily call activities and can be easily integrated with a laptop for completing planning and analysis tasks. By understanding individual prescribing patterns and opportunities, representatives can deliver more effective messages and promotions, resulting in higher sales volume and improved profitability."

PhasTrak is IMS HEALTH Strategic Technologies' latest innovation combining the industry's most reliable hand-held technology with the company's unmatched expertise in delivering Pharmaceutical Relationship Management (PRM) solutions. The instant intelligence PhasTrak puts in the palm of sales representatives' hands includes: database technology to aid in account prospecting and targeting; business information, such as IMS HEALTH data, integrated seamlessly into the handheld device; electronic signature capture integrated with account targeting; profiling by professional or organization and call history detail; and product sample control and management - including signature verification, rapid retrieval and sampling history.

Through a unique combination of tailored and integrated software,

customer databases and expert service and support, IMS HEALTH Strategic Technologies is the global market leader in the implementation of customized Pharmaceutical Relationship Management solutions. Focusing solely on the pharmaceutical industry, IMS HEALTH Strategic Technologies implements leading-edge knowledge management solutions that help clients achieve maximum return on their sales and marketing investment.

IMS HEALTH is the world's leading provider of information solutions to the pharmaceutical and healthcare industries. With \$1.2 billion in 1998 revenue, IMS HEALTH operates in over 90 countries. IMS HEALTH is the largest pharmaceutical manufacturer information partner, with over 40 years' experience in the industry. Key products and services integral to customer day-to-day operations include: market research for prescription and over-the-counter pharmaceutical products; sales management information to optimize sales force productivity; technology enabled selling solutions for sales and marketing decision-making; and technology systems and information services that support managed care organizations. Additional information is available at <http://www.imshealth.com>.

January 19, 2000

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This press release includes statements which may constitute forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Although IMS HEALTH believes the expectations contained in such forward-looking statements are reasonable, it can give no assurance that such expectations will prove correct. This information may involve risks and uncertainties that could cause actual results of IMS HEALTH to differ materially from the forward-looking statements. Factors which could cause or contribute to such differences include, but are not limited to (i) the risks associated with operating on a global basis, including fluctuations in the value of foreign currencies relative to the U.S. dollar, and the ability to successfully hedge such risks, (ii) the extent in which IMS HEALTH seeks growth through acquisitions, and the ability to identify and consummate acquisitions on satisfactory terms, (iii) the ability to develop new or advanced technologies and systems for its businesses on schedule and on a cost-effective basis, (iv) regulatory and legislative initiatives, particularly in the area of medical privacy, and (v) deterioration in economic conditions, particularly in the pharmaceutical, healthcare, information technology or other industries in which IMS HEALTH's customers operate.

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NAICS CODES: 33411 (Computer and Peripheral Equipment Manufacturing)

SPECIAL FEATURES: COMPANY

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06974756 Supplier Number: 59012144 (THIS IS THE FULLTEXT)

McKessonHBOC Technology Solutions Successfully Launches Wallace Laboratories' Electronic Territory Management System.

Business Wire, p0242

Jan 27, 2000

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 413

TEXT:

Health &Medical Editors

HORSHAM, Pa.--(BUSINESS WIRE)--Jan. 27, 2000

McKessonHBOC Technology Solutions, a business unit of McKesson HBOC, Inc., (McKessonHBOC) announced today the successful launch of Wallace Laboratories sales force with Technology Solutions' proprietary CornerStone system.

This launch of 182 field representatives and 18 district managers was accomplished within schedule and budget.

This sales force automation software enables pharmaceutical representatives to record their detailing and sampling efforts. It also improves their effectiveness by giving them the ability to analyze past call and prescription history in their territory to target their physicians and plan their calls. This new territory management application replaces Wallace Laboratories' previous system.

"This smooth launch is another testimony to the ability of McKessonHBOC to service smaller to medium size sales forces with a robust and proven technology," said Brian Dillon, President of Technology Solutions.

Tom Altobelli, Wallace's Director of Sales Systems, stated that "the combination of the reliable CornerStone product and the outstanding service and support offered by McKessonHBOC makes this the perfect ETMS system for Wallace Laboratories. I am excited about the prospect of a long-term relationship with both."

McKessonHBOC Technology Solutions is the exclusive value-added reseller for IMS HEALTH Strategic Technologies, offering CornerStone, SteppingStone and PhasTrak solutions to emerging pharmaceutical manufacturers. IMS HEALTH Strategic Technologies is the global market leader in the implementation of customized Pharmaceutical Relationship Management (PRM) solutions.

PRM is IMS HEALTH Strategic Technologies' proprietary adaptation of customer relationship management technologies to meet the specific needs of the pharmaceutical industry.

Technology Solutions is a unit of McKessonHBOC Pharmaceutical Partners Group. It provides a seamless suite of pharma-centric tactical and strategic analytical tools, ranging from sales automation to field manager reporting systems to home office decision support tools.

These tools give marketing professionals and market researchers the ability to perform complex analytical tasks such as physician segmentation, forecasting, promotional response modeling, promotional impact analysis, managed care and event ROI analysis. McKesson HBOC, Inc., a Fortune 60 corporation, is the world's largest supply management and healthcare information technology company.

McKessonHBOC provides supply management and information technologies across the entire continuum of healthcare, including market-leading businesses in pharmaceutical and medical-surgical distribution, automation, information technology and outsourcing services for healthcare providers and payors. More information about McKessonHBOC is available on our Web site at: <http://www.mckhboc.com>.

McKessonHBOC news releases are available at no charge through McKessonHBOC's NewsOnDemand fax service. To immediately receive an index of available releases, call 800/344-6495 and press 2.

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COMPANY NAMES: *McKessonHBOC; Technology Solutions; Wallace Laboratories
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SIC CODES: 2834 (Pharmaceutical preparations); 7372 (Prepackaged
software)
NAICS CODES: 325412 (Pharmaceutical Preparation Manufacturing); 51121 (
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SPECIAL FEATURES: LOB; COMPANY

16/9/56 (Item 25 from file: 16)
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A DOSE OF STRONG MEDICINE

InformationWeek, p45

Feb 7, 1994

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TEXT:

Last month, scientists at Du Pont Merck Pharmaceutical Co. announced that they had developed one of the first computer-designed drugs, a revolutionary step.

The medicine, which blocks an enzyme that helps spread the virus that causes AIDS, was created by four scientists using Evans & Sutherland 3-D molecular modeling software on a network of Silicon Graphics workstations. Though the work took three years, the Du Pont Merck scientists shaved years off the drug's development time. 'We didn't have to go through a trial-and-error process,' says Patrick Lam, principal research scientist at Du Pont Merck, a joint venture between Du Pont and Merck & Co. in Wilmington, Del.

As dramatic as computerized drug design is, it's only part of a major transformation taking place in the pharmaceutical industry. In R&D, manufacturing, and sales, drug companies are using technology as never before. They have to: With the rise of managed health care groups and the government urging reforms, the industry is undergoing unprecedented change.

Some drug makers, including Du Pont Merck, are turning to engineering workstations to develop new products. Others, such as Parke-Davis Research, are using handheld computers to automate the sales force, while Bristol-Myers Squibb Co. and Burroughs Wellcome Co. are investing in computer-integrated manufacturing (CIM). Still others are rethinking the way they use computers in functions ranging from R&D proposals to sales to distribution.

'There are a lot more operating issues for drug companies that require more sophisticated IS today,' says Norman Selby, director of consulting firm McKinsey & Co.'s pharmaceutical division in New York. 'Drug companies should be growing their IS in response to the new challenges they now face.'

Don Neel, executive director of corporate IS for \$6 billion drug maker Eli Lilly and Co. in Indianapolis, is doing exactly that. 'As we look at changes and respond to those changes,' he says, 'we've been streamlining business processes with information technology, which continues to be an area of investment for us.' Neel says managed care plans and other buying groups are forcing companies like Lilly to pay more attention to economic 'outcomes' data, which demonstrate that a product is not only safe and reliable, but also cost-effective compared with others available.

With the growth of managed health care plans (see chart), which increasingly dictate drug prices, and the promise of health care reform, the \$55 billion U.S. market for pharmaceuticals has shifted almost overnight. Many drug makers have responded by conducting massive layoffs and restructuring their operations. Throw in salvos from the Clinton administration and Congress, including last week's Senate report chiding the industry for continued price increases, and you've got an industry under pressure to hold prices down.

Critical Condition

That will hurt drug makers where it counts most: their pockets. Pharmaceutical companies, long one of the more profitable industries in America with sales growing 15% a year during the '80s, now face increases of 5% to 9% - with no short-term expectations for improvement.

'1994 will be a year that we see a lot of cutbacks at drug firms,' says Harri Taranto, managing director for pharmaceuticals at the Wilkerson Group, medical-products consultants in New York.

Another result of the rise of managed care and health reform is a transformation of the drug industry's customer base from independent,

prescription-writing physicians to group purchasers like health maintenance organizations and prescription drug plans. These new customers force drug makers to do more team selling, and that, in turn, demands better communication among salespeople. Here again, technology is helping.

Jim Doyle, a Philadelphia-based partner in the pharmaceutical industry practice of CSC Consulting Inc., cites the industry's use of GridPads and Apple Computer's Newtons. Pen-based computers automate sales-call reporting, allow more detailed profiling of new customers, and provide faster feedback on the changing marketplace. They help drug makers produce market data and databases that are more up-to-date than those provided by traditional market research firms.

At Parke-Davis, the prescription-drug division of Warner-Lambert Co. in Morris Plains, N.J., Rich Cella, director of IS, automated the 1,300-person sales force, which a year and a half ago had no computers at all. Now they have pen-based 386 GridPad computers from Grid Systems Corp. in Westlake, Texas.

These devices allow Parke-Davis salespeople to track customers like never before, identifying subtle physician preferences and data about particular drugs. 'They walk in and out of doctors' offices, often catching them on the fly, and don't have time to set up screens,' notes Cella.

Another benefit of pen-based computing relates to a federal law that requires salespeople to get the signature of any physician with whom they leave drug samples, a routine practice. Parke-Davis sales reps can electronically capture the required signatures and transmit them daily to the home-office database. While the Food and Drug Administration has not officially approved the electronic signatures, it tacitly permits the practice.

Eventually, Parke-Davis managers will be able to tap data gathered with the pen computers to correlate prescription drug sales with the influence of managed care programs.

Examining The Facts

Proprietary software for this pen-based system, including a graphical user interface for the GridPads, was developed by a Parke-Davis team that worked with Sales Technologies Inc., an Atlanta-based systems development and outsourcing firm. The software also helps salespeople maintain up-to-the minute inventory of their drug samples, while the GridPads have enabled them to eliminate paper from their daily sales reporting, says Charles Smith, Parke-Davis' director of sales and administration.

Pen computers are also helping several drug companies conduct research. In the past, a research project that might involve 2,000 subjects would require researchers to laboriously fill out and mail or fax a form for each. But by converting the process to pen computers, companies can cut weeks, even months, from clinical trials and start their new drug applications to the FDA sooner. Reducing cycle time can save as much as \$1 million a day from delays on a future blockbuster drug, say industry insiders.

Some drug makers are taking a more comprehensive view of how technology can help them keep up with the industry. 'The question is, how do I know I have the right information at the right depth in a world where you need to make decisions more rapidly?' asks Stephen Harr, director of strategic planning at Pfizer Inc.

To answer that question, New York-based Pfizer is conducting a major review of its entire technology strategy. The company has formed task forces to examine such areas as data processing for clinical trials, customer systems, and corporate infrastructure, says Cathleen O'Connor, Pfizer's VP of corporate IT.

Other drug makers are using computer-aided manufacturing to automate everything from resource planning to process controllers. The objective, explains Doyle of CSC Consulting, is paperless manufacturing. To get that, drug makers are buying separate software packages for MRP (manufacturing resource planning), plant operations management, laboratory information management, and process data management. They're then integrating all of these into a complete computer-integrated manufacturing architecture.

Such projects often integrate disparate hardware platforms like Digital, IBM, and HP, and then use Unix to drive them. Typically, IBM AS/400s run the MRP systems, while DEC VAXs run the laboratory systems and act as hosts for workstations on the shop floor. The result pharmaceutical

companies are aiming for: better, more effective medicine at lower prices for patients, and higher profits for themselves. Sounds like a welcome prescription all around.

- Chuck Appleby

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SPECIAL FEATURES: INDUSTRY

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SALES TECHNOLOGIES RELEASES SNAP/PHARMA

PR Newswire, pN/A

Oct 3, 1994

Language: English Record Type: Fulltext

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Word Count: 385

TEXT:

SALES TECHNOLOGIES RELEASES SNAP/PHARMA

ATLANTA, GA, Oct. 3 -- Sales Technologies, Inc. (ST) announces the release of SNAP/Pharma1.1, a Windows-based modular client/server software application designed to handle the automation needs of mobile sales professionals in the pharmaceutical industry. SNAP/Pharma is intuitive for sales reps to use and accommodates the automation needs of hospital, managed care and national account representatives, as well as traditional physician-focused sales reps and sales management.

Designed specifically for the dynamically changing managed care selling environment, SNAP/Pharma performs the following critical functions: targeting, team selling, profiling, activity management and sample tracking. SNAP/Pharma incorporates the most current syndicated data and lets sales reps convert it into actionable information with useful business insights.

"Government regulations and the need to monitor drug samples issued by pharmaceutical reps, gave birth to sales force automation in the early '80s. But the competitive and regulatory environments have changed fundamentally since then," said ST's VP of Marketing, Alan Factor. "With more than a decade of experience and market leadership, ST's SNAP/Pharma is an evolutionary product and the most comprehensive solution available on the market today."

Founded in 1983, Sales Technologies, Inc., is the leading global provider of products and services for sales automation. The company has 1,000 clients and 50,000 users in a variety of industries including pharmaceutical, consumer package goods, telecommunications, asset management and high technology. Headquartered in Atlanta, Sales Technologies is a wholly owned subsidiary of The Dun & Bradstreet Corporation, with offices throughout the U.S. and key international locations.

NOTE: Technical specs are listed below:

Technical specs:

PC Database:	WATCOM
Recommended PC Platform:	486, 12 mg RAM 33 mhz
Development Tool:	Visual C++
Server Database:	Oracle (current), Sybase (Q1 95)
Database server:	RS6000 (or other on approval)
Other hardware:	Pentium PCs for Transaction Processing

Communication: SNAP/CommServer(a)

E-Mail: MS Mail or cc: Mail

(a) SNAP/CommServer is ST's file transport and communications mechanism for SNAP/Pharma and other applications supporting the mobile user. SNAP/CommServer complies with all industry standards, including TCP/IP and provides the following five functions: a generic queuing facility for store and forward transport of files, user friendly connection facility, support for other remote applications, user management and system administration tools.

Call ST at 800-994-SNAP for additional information.

-0- 10/3/94

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COMPANY NAMES: *Sales Technologies Inc.

EVENT NAMES: *330 (Product information)

GEOGRAPHIC NAMES: *1USGA (Georgia); 1USA (United States)
PRODUCT NAMES: *7372410 (Business Applications Software)
INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)
NAICS CODES: 51121 (Software Publishers)
TRADE NAMES: SNAP/Pharma1.1
SPECIAL FEATURES: COMPANY

16/9/51 (Item 20 from file: 16)
 DIALOG(R)File 16:Gale Group PROMT(R)
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CulturalAccessWorldwide Wins Vivelle Ventures Product Launch Assignment
 PR Newswire, p0709NYTH028
 July 9, 1998
 Language: English Record Type: Fulltext
 Article Type: Article
 Document Type: Newswire; Trade
 Word Count: 561
 TEXT:

ARLINGTON, Va., July 9 /PRNewswire/ -- CulturalAccessWorldwide, Inc. (Nasdaq: CAWW) today announced that it was awarded an assignment to provide its proprietary field sales technology and sample administration system to support the U.S. sales and marketing launch of Vivelle, an estrogen replacement therapy patch developed and manufactured by Noven Pharmaceuticals, Inc. (Noven), and marketed by Vivelle Ventures LLC (Vivelle). Vivelle is a women's health company jointly owned by Novartis Pharmaceuticals Corporation (Nasdaq: NVTRF) and Noven (Nasdaq: NOVN).

"We are thrilled to have an opportunity to expand our relationship and integrate our technology system with the Vivelle sales force," said John Fitzgerald, President and CEO of CulturalAccessWorldwide. "This assignment confirms the importance of our commitment to technology investment as a means of furthering our client's leadership in pharmaceutical sales and marketing services."

CulturalAccessWorldwide's Phoenix Marketing Group will supply its proprietary Electronic Territory Management System (ETMS), including Personal Digital Assistants (PDA's), to the Vivelle sales force to report and track their efforts electronically. "This paperless system will provide real time connectivity to accelerate the sales, sampling and fulfillment process and allow for instant customer profile updates," said Doug Rebak, President of CulturalAccessWorldwide's Phoenix Marketing Group. "We will also supply the Vivelle representatives with sample shipment and other supplies from our new state-of-the-art sample fulfillment center."

"Samples are a key element in the product promotion mix," said Neil Jones, Executive Director of Sales and Marketing for Noven Pharmaceuticals, "and with smart features like digital signature capture, the Phoenix technology really simplifies our sample distribution in the field and enhances the productivity of our sales force."

CulturalAccessWorldwide is a rapidly growing outsourced marketing services company that assists Fortune 500 clients in penetrating complex and hard-to-reach market segments. The Company targets Culture Markets, which it believes are underpenetrated by many goods and services and represent substantial business-building opportunities for Fortune 500 companies. The Company's targeted Culture Markets are as follows:

Healthcare Culture Markets	Ethnic Culture Markets	Generational Culture Markets
Physicians	Hispanic	Mature (50+)
Pharmacists	Asian	College Students
Patients	African-American	

CulturalAccessWorldwide identifies high-potential consumers; designs and implements marketing programs to reach them; initiates and closes sales on behalf of its clients; and provides customer retention and development programs. CulturalAccessWorldwide's resources include proprietary databases of targeted consumers, physicians and pharmacies, strategic planning and market research services, inbound and outbound teleservices representatives covering 15 different languages, DEA approved drug sample fulfillment and direct mail capabilities. CulturalAccessWorldwide has over 1,300 employees and representatives in offices throughout the United States.

This release contains forward-looking statements that are subject to risk and uncertainty. CulturalAccessWorldwide's actual results could differ materially from those discussed in such forward-looking statements due to various factors which are outside the Company's control. For a more detailed discussion of these factors and others, see the risk factors section of CulturalAccessWorldwide's prospectus filed as part of its registration statement on Form S-1 (SEC file # 333-38845).

SOURCE CulturalAccessWorldwide, Inc.

-0-

07/09/98

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(CAWW NVTRF NOVN)

CO: CulturalAccessWorldwide, Inc.; Noven Pharmaceuticals, Inc.;
Vivelle Ventures LLC; Novartis Pharmaceuticals Corporation
ST: Virginia
IN: ADV MTC
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EVENT NAMES: *380 (Strategic alliances)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *2834122 (Estrogen & Progestogen Preps)

INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)

NAICS CODES: 325412 (Pharmaceutical Preparation Manufacturing)

SPECIAL FEATURES: COMPANY

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DIALOG(R)File 15:ABI/Inform(R)

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Customer Information Management Creates the Next Marketing Challenge

Walsh, Jeremy

Medical Marketing & Media v27n1 PP: 48-55 Jan 1992 CODEN: MMKMBX ISSN:
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DOC TYPE: Journal article LANGUAGE: English LENGTH: 8 Pages

SPECIAL FEATURE: References

WORD COUNT: 2938

ABSTRACT: The historic emphasis on salesforce activity in the US pharmaceutical industry is being replaced by physician-based micromarketing. For true micromarketing, a pharmaceutical company needs to be able to integrate data containing 5 primary sets of characteristics: 1. the customer universe, 2. potential, 3. influences, 4. marketing research, and 5. achievement. The pharmaceutical industry must overcome the problems associated with integrating customer-level data from a multitude of sources. Some companies, in the belief that they can create a competitive advantage, will handle the data-integration problems in-house, but at a substantial and increasing annual cost. Data integration is not a one-time exercise; it requires a continuous maintenance regime. Many pharmaceutical companies will opt to entrust the data integration task to specialist agencies. Whichever route a company chooses, the issue cannot be ignored.

TEXT: The pharmaceutical industry in the United States is currently undergoing the most significant changes in its marketing practices in over 20 years. The historic emphasis on sales force activity is now being replaced by physician-based micromarketing. The emphasis on geographic sales dollars is being superseded by reviewing prescriptions and individual customer needs.

These changes have been brought about by two concurrent trends: governmental and health-care funding pressure on industry profit margins, and an increasingly more crowded and competitive marketplace. Meanwhile, the development of laptop PCs and good-quality data transmission techniques have fueled the rapid growth of distributed processing. Every month this technology has an increasing effect on pharmaceutical promotion. The field-based PC has already had a significant impact on information management by sales representatives and field managers, together with the decision support services provided to them.

Paul Saatsoglou, director of marketing services of Janssen Pharmaceutica, U.S., summed up the situation this way: "Field automation presents a new area of opportunity for customer information management and vertical integration with promotional strategy. Notebook computers used effectively by field representatives, as well as database managers through host computer access, are starting to provide the capability of real-time data updates and quicker response times for promotion, changing sales direction, and competitive response. In a multi-company environment similar to ours at Johnson & Johnson, data sharing across field forces makes coordination and task splitting more of a reality than a management wish."

This new focus on the physician has placed customer databases under much closer scrutiny than ever before. Each pharmaceutical company now has many hundreds of people using computers to interrogate its own customer database on a daily basis. This increased user base continually highlights the significant deficiencies in many of those files. It has also led many companies to the belief that technology, and not information, has guided the movement toward micromarketing.

The movement toward micromarketing and the desire to segment the customer base highlight problems of data integration and inconsistencies in many of the physician-based data sources. The pharmaceutical industry, especially in the United States, has a vast quantity of customer-level information

available to it. However, it comes from more than one data provider and in a multitude of formats. In a recent survey of U.S. pharmaceutical marketers, over 50 percent believed that they would use marketing data from more sources in the future.(1) This means that the integration of the data, often difficult at present, will at times seem impossible. This difficulty of integration frequently makes the task extremely expensive, and sometimes makes it commercially unrealistic. The quantity of effort being expended by the 100 major companies in integrating these databases must be immense.

For true micromarketing, a pharmaceutical company needs to be able to integrate data containing five primary sets of characteristics: the customer universe, potential, influences, marketing research, and achievement.

THE CUSTOMER UNIVERSE

Robert Brown, vice president of the health-care consulting company Health Products Research, has developed three laws of sales management through numerous sales force studies. His first law states the importance of the customer universe.

"A complete and accurate account profile and a relatively accurate measure of account potential are necessary for making effective decisions on sales force size and call policy."

The starting point of any customer database must be an accurate and complete customer universe. Without a list of customers' names, calling addresses, mailing addresses, and specialties, it is neither possible to carry out mass marketing programs to create awareness, nor to build the remaining information for micromarketing. Most companies use the American Medical Association (AMA) list as their primary source of physician information. This list has been generally accepted for some time as being the best commercially available list in the U.S.A. However, the AMA has to balance both internal and industry requirements for maintaining its list. A primary objective is for it to have an up-to-date, accurate list of its members so that it can communicate with them. Its main method of communication with its members is not a personal call (as with industry), it is via direct mail.

This difference in principal communication methodology explains why some pharmaceutical companies have complained that the list contains too many postal addresses. The AMA has turned its attention to this criticism, as well as including non-AMA physicians. However, the industry's customers are no longer purely physicians, and pharmaceutical companies now also need to include nurse practitioners, pharmacies, hospital administrators, and managed care organizations in their customer universes.

Maintaining an accurate physician and customer universe should be the easiest task. However, experience has shown this not to be the case. Even the largest company databases do not have sufficient updating sources to maintain a high degree of accuracy. Indeed in many markets--for example, Japan, Canada, the U.K., the Netherlands, Belgium, and Germany--service agencies combine a multitude of updating sources, including information from competing companies, to maximize database accuracy and amortize maintenance cost of the customer universe.

POTENTIAL

"Detailed account segmentation is necessary for understanding your accounts and developing the most profitable call policies."

--Robert Brown's Third Law of Sales Management

Robert Gouterman presented a coherent and compelling argument for not ignoring mass marketing in his article "The Case for Mass Marketing in an Era of Segmentation."(2) However most companies, due to financial and promotional optimization requirements, need to segment their customer base. There are two different forms of information which could be used, either separately or together, to identify the potential of the customer and also

the customer's present or previous prescribing habits.

ATTITUDES. Consumer segmentation techniques were developed from the original paper in 1954 by Everett Rogers, entitled "The Diffusion of an Innovation." He pointed out that "attitudes precede behavior," and documented the method by which an innovation is adopted by an audience. This has been validated in many markets, including ours. Whether or not a doctor adopts a product will, in part, depend upon the risk he perceives in his decision to prescribe it. In the U.K. in 1975, Williamson showed that "perceived risk" of adopting a new product varied by therapy class. Thereafter, there was substantial research which indicated that, although general innovation could be identified among family practitioners and used as a targeting characteristic, this could be improved into therapy class-specific innovation. In the late 1980s, this concept was further developed into marketing message-specific innovation, or "prospective targeting."

The desire to adopt beneficial change is tempered by situational effects such as practice demographics. These define the opportunity open to the physician and hence affect the assessment of the benefits versus the risks.

This type of attitudinal data, together with complementary information, is usually collected through self-administered mail questionnaires and by merging other sources of information, often from the sales rep. It is difficult to maintain these data on all physicians, but luckily attitudinal information has been shown to change more slowly than prescribing behavior data.

PRESCRIBING. Data on prescribing behavior has been collected by both pharmaceutical companies and specialist agencies in the U.S.A. since the mid 1970s. Historically this type of information, which is vital for "protect and maintain" and "increase usage" marketing strategies, has been collected via mail questionnaires and the representatives. Both methods have limitations. Although mail questionnaires have been validated as to accuracy, the amount of information now required by the industry puts pressure on response rates. The alternative source, the representative, is biased toward his or her own products and is equally limited in coverage.

The recent investment in physician-related prescription databases heralds the development of observed product usage profiles derived from prescriptions recorded at the pharmacy terminal. Much emphasis is already being placed on the statistical validity of the prescription sample, the projection techniques to create the derived data at the physician level and the maintenance of the confidentiality of the physician's actual prescribing. Within a couple of years, the industry should be benefiting from virtually census information on the physician population. This exciting and valuable new source of prescription-defined prescriber profiles will supplement questionnaires, allowing the questionnaires to be refocused onto the collection of attitudinal data.

When integrated with the customer universe, attitudinal and prescription-defined profiles allow the industry to select a target audience for all four types of marketing strategy: prospective targeting, increase usage, competitor switch, and protect and maintain.

INFLUENCES

"Today any serious analysis of target doctors must concern itself with the environment of practice." (3)

--Robert Gouterman

There are two key influences on a physician's, or other customer's, prescribing.

RESTRICTIONS: The first key influence is the physician's ability to prescribe. The growth of the managed care institutions over the past five

years has been significant. There are now 700 HMO/PPOs, of which over 250 have formularies.(4) In a 1990 survey of U.S. sales and marketing executives, 60 percent of pharmaceutical companies had established managed care sales teams, and the estimated average percentage of sales attributable to these sales teams had grown from 12 percent in 1989 to 15 percent in 1990.(5) Over one-third of prescriptions are funded by managed care organizations and this growth continues to be fueled by the consumer's and third-party payers' desire to reduce health-care costs.

From the pharmaceutical industry's point of view, it is not only critical to promote the products to the headquarters of the managed care organizations, ensuring that the product is placed on the formulary, but it is also important to promote that same product to those physicians who are allowed to prescribe it. Therefore, the knowledge that the physician is related to a particular managed care organization is critical to effective promotion.

* Does that physician have to work to a formulary?

* Is he or she subjected to drug utilization review or step therapy?

* What percentage of the patients are under managed care?

Only with this type of information will the marketing and sales team be able to maximize the opportunities offered by managed care.

PROMOTION: The other primary influence is the pharmaceutical company's own promotional activity. Estimates of total industry primary care detailing by its 37,000 representatives varied widely from 19 million to 28 million calls in 1990; however, everyone agrees that nearly three-quarters of promotional spending is allocated to personal visits. Most of the industry uses the rule of thumb that the fully supported cost of a sales representative is about \$100,000 per year--and this cost increases each year. Most pharmaceutical companies keep a detailed databank of their representatives' promotional call activities, but how many integrate their direct mail and journal advertising? Therefore, the promotional databases often account for only about 70 percent of the promotional spending. The remaining 30 percent is ignored. Surely much of this valuable investment can be integrated into the database at a commercially realistic cost.

Industry marketers work on the premise that all forms of promotional activity influence prescribing. Therefore, they should make sure that all activities are in the integrated database.

MARKETING RESEARCH

Integrating marketing research poses new problems. They are not ones of cost or magnitude. They are problems of management ethics. The Market Research Code of Conduct, under which virtually all pharmaceutical research is conducted, forbids the identification of the individual to the commissioning organization.

To maximize the value of marketing research on product positioning, proposed promotional messages, uptake, and present usage, it is essential that the research be combined with other "client confidential" information to enable the results to be interpreted by target and non-target doctors, called-on and not called-on physicians, etc. This integration cannot be completed on the company's own database within the code of conduct.

This restriction identifies the need for pharmaceutical companies to be prepared to work in partnership with strategic marketing agencies, taking them fully into their confidence and discussing detailed marketing strategies, research methodology, promotional implementation, and success evaluation. This can only be achieved if the agencies are allowed the freedom to integrate the client's data into the marketing research database so that, at the customer level, the results can be re-analyzed by specific promotional and strategic criteria. Without this freedom and partnership, the drug company must choose between ignoring the code of conduct (and its potential ramifications) or committing itself to less than optimal

promotional efficiency.

ACHIEVEMENT

"Even though sales force expenditures are the topic of discussion in virtually every boardroom, we do not expect the debate over the necessity of mega sales forces to be resolved during the next five years. However, we do expect intense management focus on achieving gains in sales force and marketing efficiency." (6)

--L.J. Wilkerson The Wilkerson Group

~~Historically, most companies have assessed achievement and efficiency by utilizing the Drug Distribution Data wholesaler inventory withdrawal database.~~ This database is virtually census information. However, the information is geographically based, which makes true integration with a customer database impossible. It cannot be "cut" by the specialties of the doctors, whether the physician was target or non-target, nor can it be analyzed for results achieved from doctors called on compared to those doctors not called on. It also exhibits the problems associated inherently with the data collection methodology. Pipeline stocking and de-stocking cannot be avoided. The traveling script will always cause inaccuracies, and recent research identifies that prescriptions in different therapy classes are likely to travel different average distances. For example, the mean prescription travel distance for a leading cancer therapy prescribed by an oncologist is 50 percent further than that of a pediatrician-prescribed leading antibiotic. Analysis indicates that 10 percent of antibiotic prescriptions in the U.S. are dispensed more than 15 miles away from the physician who originates them.(7) The traveling script can cause substantial inaccuracies in metropolitan areas, especially when the data are being used for territory-based sales management and field force compensation.

The problems of stocking/de-stocking and traveling scripts are removed by the introduction of prescriber-linked prescription databases. These database services are advantageous because the information can be integrated at a customer level and, therefore, specialties, promotional activity, and target and non-target doctors can be identified and analyzed, while preserving appropriate customer confidentiality. They obviously have limitations in that it is unlikely that they will ever be true census information; that would require that every filled prescription would have to be collected through some form of automated pharmacy system. This problem can be minimized by ensuring that the prescriptions are collected from a large, representative sample of pharmacies and then passed through statistically validated projection programs. Obviously, to be integrated with the customer database, they would need to be matched to the prescribing physician. On one of the databases, over 80 percent of all prescriptions are now being matched to the originating physician, which allows detailed segmentation at customer level.

Sales achievement, improvement potential and promotional performance can be assessed by aggregating actual customer prescribing information to zip code and territory level, thus assuring accuracy of data used in promotional decision making.

OVERCOMING THE HURDLES

There is no doubt that the industry is committed to micromarketing as the way of optimizing the promotional effort. The computer technology is already available, and such is the competition between hardware manufacturers that price performance improves by giant strides every month. However, the industry needs to overcome the problems associated with integrating customer-level data from a multitude of sources. Customer databases are not just a U.S. issue; they affect all markets. According to Glynn Williams, deputy managing director, Glaxo Pharmaceuticals U.K. Ltd., "In the '50s the industry was driven by its sales forces. The dominance of the sales force was overtaken by marketing in the '60s and early '70s. In

the '70s and '80s, marketing and R&D have become much more integrated ...and both of these activities are highly targeted. And what will the '90s bring, I wonder? Certainly in the United Kingdom, we are having to redefine the customer, and that redefinition is requiring important operation changes."

Some companies, in the belief that they can create a competitive advantage, will handle the data integration problems in-house, but at a substantial and increasing annual cost. Data integration, unfortunately, is not a one-time exercise. It requires a continuous maintenance regime. Many pharmaceutical companies, knowing this, will opt to entrust the data integration task to specialist agencies. These agencies can also handle the confidential marketing research data so as to optimize promotional activity, minimize internal costs, and amortize the data integration development work over a group of competing companies.

Whichever route a company chooses, the issue cannot be ignored. Otherwise it cannot make full use of the technology available to it; and may well condemn the company to a gradual loss of competitiveness.

"For many companies, postponement of automation of the marketing function may seem a good way of skirting a difficult decision, but this do-nothing posture condemns the organization to being a marketing laggard; it may also be a costly mistake. Earlier adopters of marketing and sales productivity systems have gained superior competitive advantage."(8)

Next month, in an article closely related to this one, Mr. Walsh explains why sales force structures must become more efficient.

FOOTNOTES

(1) Survey of 250 brand managers by Lobsenz Stevens Inc., Bruno Ridgeway & Bill Hain & Associates. "A sunny outlook on the Employment Horizon." Pharmaceutical Executive, May 1991.

(2) Medical Marketing & Media, May 1991.

(3) Gouterman, op. cit.

(4) American Medical Census, 1990.

(5) Survey of 250 brand managers by Lobsenz Stevens Inc., Bruno Ridgeway & Bill Hain & Associates. "A sunny outlook on the Employment Horizon." Pharmaceutical Executive, May 1991.

(6) See "Perspectives on Winning in the 1990's." EPhMRA Conference, 1990.

(7) SOURCE News, April 1991.

(8) Moriarty & Swartz, "Automation to boost sales and marketing." Harvard Business Review.

Mr. Walsh is group development director of Walsh International, a multi-national supplier of physician-based information and marketing services.

THIS IS THE FULL-TEXT. Copyright CPS Communications 1991
GEOGRAPHIC NAMES: US

DESCRIPTORS: Pharmaceutical industry; Market segmentation; Methods; Data bases; Physicians
CLASSIFICATION CODES: 9190 (CN=United States); 8641 (CN=Pharmaceuticals industry); 7000 (CN=Marketing

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The Right Rx for Drug Distribution

Bowman, Robert

Distribution v90n12 PP: 60-61 Nov 1991 CODEN: DSWWAV ISSN: 0273-6721

JRNL CODE: DWW

DOC TYPE: Journal article LANGUAGE: English LENGTH: 2 Pages

ABSTRACT: There are 37,000 pharmaceutical sales representatives in the US. They receive millions of pounds of samples each year, intended for nearly 1/2 million doctors. A recent federal law requires drug makers to keep tabs on every unit, and the penalties for failure to comply can be immense. Clearly, there is a need for creating a strict paper trail for all shipments of drug samples. For Miles Inc., the solution rested with American Distribution System Inc. (ADS), a third-party logistics outfit. ADS ensures that every sample bears the signature of an authorized consignee. It also arranges after-hour deliveries to residential addressess. Miles was further enticed by ADS' online, computerized tracking system. Status checks take place every time the product moves, stops, or changes hands.

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COMPANY NAMES:

Miles Inc (DUNS:00-506-8705)

American Distribution System Inc

GEOGRAPHIC NAMES: US

DESCRIPTORS: Pharmaceutical industry; Logistics; Regulation; Samples;
Materials handling

CLASSIFICATION CODES: 8641 (CN=Pharmaceuticals industry); 5160
(CN=Transportation); 4310 (CN=Regulation); 9190 (CN=United States)

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DIALOG(R)File 15:ABI/Inform(R)

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What the doctor ordered

Greengard, Samuel

Industry Week v249n12 PP: 33-35 Jul 17, 2000 CODEN: IWEEA4 ISSN:
0039-0895 JRNL CODE: IW

DOC TYPE: Periodical; Feature LANGUAGE: English RECORD TYPE: Fulltext

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SPECIAL FEATURE: Photograph

WORD COUNT: 844

ABSTRACT: For Knoll Pharmaceuticals Co. sales-force automation is an essential ingredient for maintaining a competitive advantage. And the 1,300-employee firm, a division of BASF Corp., has embraced the technology in a big way. It uses Siebel Sales to manage the intricacies of selling products across numerous channels.

TEXT: A PHARMACEUTICAL MANUFACTURER BOOTS UP SALES-FORCE AUTOMATION THROUGH AN ASP.

For Knoll Pharmaceuticals Co. sales-force automation is an essential ingredient for maintaining a competitive advantage. And the 1,300-employee Mt. Olive, N.J., firm, a division of BASF Corp., has embraced the technology in a big way. It uses Siebel Sales to manage the intricacies of selling products across numerous channels.

Yet, if you wander into Knoll's offices you won't find any servers or software. Everything resides 230 miles away at USinternetworking Inc.'s Annapolis, Md., facilities. "With the scarcity of IT personnel and rapid pace of technological change, it made sense to turn to an application service provider [ASP]," explains Ed Finney, director of sales operations. In this case Knoll chose USinternetworking (USi).

The system has allowed Knoll to leapfrog from a creaky DOS-based system to state-of-the-art software quickly and painlessly. Nearly three years ago, when the pharmaceutical-marketing scenario changed as HMOs began making more drug decisions, Knoll recognized that it had to begin selling products differently. "We knew that we needed technology that could address widely varying marketing and distribution channels," says Rick Ofeldt, director of information services.

Although it considered licensing the software and relying on its internal hardware and staff, an internal cross-functional team decided that outsourcing to an ASP made sense. Knoll interviewed several companies and inspected various data centers, taking a close look at whether different application service providers had the right capabilities, facilities, and project templates to ensure success. In the end, Knoll opted for USi. The ASP began configuring the product in September 1998 and Knoll went live with Siebel Sales in April 1999. Actual implementation took only 45 days.

NOT SURPRISINGLY, KNOLL FACED SOME formidable challenges along the way. Mapping and moving data from the old system to the new was a mammoth task. In fact, it required a constant reevaluation of processing capabilities to ensure that the final system would operate at maximum efficiency. Although Knoll handled the data mapping, USi performed the task of actually slotting everything into an Oracle database.

In addition, Knoll had to ensure that the data would be available for other applications that remained in-house, including business intelligence tools and reporting systems. For example, one particularly vexing area centers on government requirements that mandate that pharmaceutical firms track samples. "We had to make sure that we could feed data from the sales-force automation system to an outside company that validates that samples have been properly handled and delivered," says Finney.

Today more than 800 Knoll representatives in the field use Siebel Sales to interact with a diverse range of customers. The fact that an application service provider manages the system is completely transparent. Every day reps access information through their notebook computers, enter data as they complete sales visits, and then upload files directly to the USi server in Annapolis. A T1 line connects the data center at USi with Knoll's computers in New Jersey. Ofeldt says that the system has worked nearly flawlessly and that response time has been excellent.

It also has proven to be highly secure. USi uses a firewall to separate Knoll's data from other firms using the data center. That makes the chance of an intrusion almost nil. "Security was a major issue," admits Ofeldt. "We were deeply concerned about the possibility that others could gain access to our data. But after we inspected and evaluated USi it was apparent that adequate safeguards were in place."

Much of Knoll's success can be attributed to upfront planning. Early on it negotiated a strict service-level agreement with USi. If the ASP fails to maintain agreed-upon service levels, the pharmaceutical company can receive compensation. So far, Knoll hasn't had a single event that has triggered a penalty clause, says Ofeldt. When a few minor glitches have occurred, the ASP has quickly fixed the problem. "We feel that we have clearly made the right decision," adds Finney.

Cost wasn't a primary consideration in the decision to outsource. In fact, Knoll decided early on that it was acceptable to pay a premium, if necessary, to ensure that the entire system functioned seamlessly. Ultimately, "It was all about sidestepping IT labor issues, reducing the risk of obsolete technology, and diminishing the complexity of the implementation. In the end, it was a strategic business decision rather than an initiative based on ROI," notes Ofeldt. Nevertheless, Knoll Pharmaceuticals has pocketed some savings as a result of using an ASP.

It also has realized an unanticipated benefit. With the additional resources of an application service provider, it is now possible to temporarily expand network capacity and create duplicate computing environments to test new applications and perform upgrades. "There's no way we could otherwise justify creating a full-scale environment for a couple of months," explains Ofeldt.

At this point, the company is looking to add additional ASP systems in the months ahead. Says Finney: "No environment is perfect and there are always tradeoffs, but the ASP business model works. It has helped us evolve quickly without taxing our internal resources." Fi--

SGREENGARD@INDUSTRYWEEK.COM

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COMPANY NAMES:

Knoll Pharmaceutical Co (NAICS:325413)

Siebel Systems (TICKER:SEBL NAICS:511210)

GEOGRAPHIC NAMES: United States; US

DESCRIPTORS: Case studies; Pharmaceutical industry; Salespeople; Automation
; Sales management; Outsourcing

CLASSIFICATION CODES: 9190 (CN=United States); 8641 (CN=Pharmaceuticals
industry); 9110 (CN=Company specific); 5240 (CN=Software & systems);
8331 (CN=Internet services industry); 7300 (CN=Sales & selling)

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Driving prescribing through targeted sampling

Brundage, Patrick W

Medical Marketing & Media v34n3 PP: 86-94 Mar 1999 CODEN: MMKMBX ISSN:
0025-7354 JRNLCODE: MMM

DOC TYPE: Journal article LANGUAGE: English LENGTH: 7 Pages

SPECIAL FEATURE: Graphs

WORD COUNT: 2440

ABSTRACT: Companies in today's increasingly competitive pharmaceutical marketplace can use advanced data mining technologies to more easily and reliably evaluate the effectiveness of each promotional tool to ensure a healthy return on investment. One company, referred to as DextraPharm, found it could achieve an incremental 5.5% in new prescription volume by using the latest data-mining solutions to develop an integrated plan that provided their sales force with specific reach and frequency targets for both calls and samples. A description of the company's efforts is provided.

TEXT: Headnote:

EXECUTIVE SUMMARY:

Faced with a strong competitor, and generic competition, here's how one company turned to data mining using a "neural network" to target sampling and increase new prescription activity

The physician is arguably the most analyzed and well-understood marketing target in the United States. Since the introduction of physician level prescription data in 1990, pharmaceutical manufacturers have applied increasingly sophisticated methods to increase understanding of physicians' responses to promotion. Significant resources have been invested to craft effective messages and create smart sales-call plans. Prescriber targeting has been sharpened considerably by examining sales calls to ensure that the right doctors are called on with the proper frequency. Today, this same analytic rigor can be applied to create smart sampling strategies.

Because a sample is usually delivered with a sales call, they are strongly correlated. Past methods of analysis required much fine-tuning to reliably determine the contribution of each component - the sample drop versus the sales call. Many companies lacked the time and analytic resources to carry out such studies. Companies in today's increasingly competitive pharmaceutical marketplace can use advanced data mining technologies to more easily and reliably evaluate the effectiveness of each promotional tool to ensure a healthy Return On Investment (ROI).
(Illustration Omitted)

Captioned as: This document provides an overview from an actual project completed by NDC Health Information Services' Research & Consulting group. The names of the product and company have been changed to protect the customer's privacy. The data, analytic approaches, and results presented are accurate.

One company, which we will call DextraPharm, found they could achieve an incremental 5.5 percent in new prescription volume by using the latest data-mining solutions to develop an integrated plan that provided their sales force with specific reach and frequency targets for both calls and samples. This growth rate was statistically validated at 96 percent confidence in a controlled experiment that generated an ROI of more than 30 percent. These impressive results spurred executive management to establish a new sales call and sample strategy for their entire sales force.

Product background

DextraPharm enjoyed enormous success with its flagship product, Dextrafix.

Sales in excess of the eight percent market growth propelled Dextrafix into second place. Yet, Dextrafix still trailed the entrenched market leader by almost 20 share points and faced a new generic competitor. Their sales and marketing strategy had to be highly focused. Given that Dextrafix competed in a market driven by both specialist and primary care physicians, the Dextrafix product team was faced with the formidable challenge of allocating their 600-person sales force to a potential physician base of over 200,000 physicians.

The product management team assessed the market and their options. There were three viable strategies:

1. Initiate a Direct-to-Consumer (DTC) advertising campaign.
2. Increase or reallocate direct-selling efforts.
3. Increase or reallocate sampling efforts.

DextraPharm ruled out a DTC campaign because of the time and significant investment it required. Next, the brand team considered direct-selling efforts. Nine months earlier, DextraPharm had increased the size of their sales force and achieved impressive results. Now, brand management decided it was time to focus on sampling efforts, where they could more quickly create changes to generate the desired ROI.

Turning information into action

To create a more effective sampling strategy, DextraPharm turned to NDC Health Information Services' (NDC) Intellect Optimizer service. DextraPharm had been using this service for the past year to quickly analyze physician response to all Dextrafix promotions. This service was driven by an advanced data mining technology that NDC had customized for pharmaceutical sales and marketing applications with Trajecta, a leading provider of software solutions that assess risk and predict behavior with certainty.

DextraPharm had always provided the same number of samples per physician to each sales representative. Recognizing that physicians had varying responses to sampling, the NDC consultants suggested that DextraPharm implement a customized sampling plan for each physician. Executive management was initially skeptical and wanted a controlled field test before proceeding with this new strategy for their entire sales force.

A four-stage process to achieve the desired results was developed:

1. Create a model to determine the impact different sample packs had on physicians' prescribing over the past six months.
2. Predict the effect of alternative sampling strategies on generating incremental prescriptions. Evaluate these alternative scenarios on sales, profitability, and ROI.
3. Choose a sampling strategy and conduct a controlled three-month field test using classic experimental design.
4. Statistically analyze the impact of the field-tested sampling strategy. Use these results to develop an improved sampling strategy for the entire field force.

DextraPharm set a four-month time limit for the entire project, including the three-month field test.

Modeling promotional effectiveness

The objective of creating a model was to answer the question, "What effect did each of DextraPharm's sales and marketing activities have on the prescribing behaviors of the over 200,000 physicians that Dextrafix was promoted to?"

The complexity of pharmaceutical sales and marketing -- sales calls,

sampling, direct mail, telemarketing, managed care influence, consumer marketing --required a model equally as complex. In addition, the high financial costs of implementing a sub-par strategy demanded accuracy. One modeling methodology met both of these criteria: a neural network.

Neural networks are computer models that imitate the structure and activity of the brain. The novel thing about neural networks is that they can sift through very large databases to "learn" patterns and relationships. Neural networks can create more accurate models of real world events because they do not assume the structure of the relationships in the data. Linear regression, in contrast, assumes that the relationship is a straight line. In the example below, a product management team would make very different decisions about their sampling strategy if they used the linear model as opposed to more realistic the neural network model.

(Graph Omitted)

Neural networks are being used today in the pharmaceutical industry. The March 23, 1998 issue of The Pink Sheet described how the World Health Organization, through its Data Mining Project, is using neural networks to determine if there are additional adverse events not listed in the Physicians' Desk Reference or Martindale. This pilot project used 36,000 adverse event reports to uncover 13 drugs with adverse events not yet listed. It was also referenced that the FDA is working on a similar neural network system.

To understand how a neural network "learns" relationships, imagine a young child learning to catch a ball. The child cannot catch the first ball thrown to him because his brain does not know how to correctly predict the trajectory of the ball in order to anticipate where his hands should be to catch it. Each time a ball is thrown to the child, the brain compares what the body did (the inputs) with the outcome - a caught or dropped ball. The brain then reinforces the neural connections that "fired" each time the child actually caught the ball. This learning process continues as more balls are thrown to the child. Each time the brain adjusts its network based on the new experience (new "data") so that the correct neurons are "fired" to allow the child to catch the ball (desired "output").

This analogy of catching a ball relates closely to the situation of training a neural network to measure the impact of promotions on physicians' prescribing. The neural network uses the inputs -- sales and marketing activities, physician demographics, managed care influences, and selected consumer information - to correctly predict the output -- physician prescribing. Initially, the model's predictions differ greatly from the actual historical prescribing, the desired outcome. As historical data is passed repeatedly through the neural network, the network determines which sales or marketing activity or combination of activities had the greatest impact on making an accurate prediction of prescribing. This learning process continues and every time data is passed through it, the neural network adjusts until the most accurate model has been developed.

The process of training a neural network is both efficient and effective. The majority of model construction time consists of the computer repeatedly training the model so human time and effort is efficiently minimized. The effectiveness is measured by the models' ability to accurately predict physician prescribing. Measured by R^2 , a common statistical measure where an R^2 of 1 indicates perfect prediction, DextraPharm's model had an R^2 of 0.79. Traditional statistical models such as linear regression could not achieve comparable predictive power.

Understanding sampling effectiveness

After the neural network model was trained, a straightforward understanding of each sample-type's impact was possible. The model contained individual promotion-response curves for each physician and each marketing activity. Product management then viewed the average responsiveness of all physicians

to each sample type. It was apparent that one sample type had far more impact than others (see figure, below).

The overall strategy was now clear: increasing sampling of one sample type could generate significant additional new prescription activity. In order to define specific implementation tactics for the field test, DextraPharm needed to evaluate several computer-simulated scenarios. Each scenario would predict the impact of additional samples on new prescription activity, profitability, and ROI. The best scenario would then be chosen for the field test.

(Graph Omitted)

Simulation and optimization

When implementing a new strategy, simulating the results of several scenarios in advance can help decision-makers reduce the uncertainty of outcome. Advances in computing power and data accessibility have brought a variety of "operations research" methods, including simulation and optimization, from the military and academia into the private sector. In a simulation, the computer predicts what would happen under a hypothetical plan. For example, what would physicians' prescribing be if we increased sampling by 25 percent? In an optimization, the computer identifies what activities need to be done to achieve a certain objective. As an example, we might want to know what mix of sales calls and sampling would be needed to maximize the profits received from each physician.

The best industrial example of the application of these methods comes from the airline industry. American Airlines' SABRE Group used simulation and optimization to address yield management - how to increase the revenues and profitability across their fleet of planes and schedules by adjusting the price for a seat according to the forecasted demand. The result was their yield management system generating an estimated \$1 billion in annual revenue (see ORIMS Today, June 1998, "SABRE Soars", p. 26-31).

"To put this into perspective," commented Thomas Cook, senior vice president of the SABRE Group, "1997 was the only year in its history that American Airlines has had operating earnings approaching \$1 billion."

Closer to the challenge faced by DextraPharms product management team, the CIO of MCI, in a 1997 issue of Information Week, credited data mining with bolstering the productivity of MCI's telemarketing efforts by 15 percent over a two-year period.

Simulation and optimization work well for problems that: are complex,

have much historical data,

are critical to the organizations success,

involve determining the best solution from several options.

The challenge of developing sales and marketing strategies for pharmaceutical manufacturers to fuel growth fits these criteria.

Simulating sampling strategies

Management decided to simulate strategies that involved the increase of sampling for the most effective sample type. Each of these scenarios would involve a prediction of physicians' prescribing under a hypothetical call and sampling plan. In the scenarios that DextraPharm investigated, it was assumed that detailing activity would remain the same as it had been. In three separate scenarios, sampling volume was increased for each physician by the same percentage. Separate simulations were run for 25, 50, and 100-percent increases in the amount of samples distributed.

The simulations and analyses were conducted in two days. Each simulation required minor set-up time by an analyst. Most of the time used involved the computer generating the simulated physician prescribing using the

neural network model. Management compared each scenario on three key metrics:

1. sales growth
2. profitability
3. ROI

The most promising scenarios for achieving the goal of a minimum 30percent ROI involved doubling the sampling levels. The predicted impact of this scenario was a 14.7 percent increase in new prescription volume, exceeding the market's and Dextrafix's historical growth rates.

The field test

To carry out the field test, NDC randomly picked one territory from each of DextraPharm's 14 geographic regions to be the test territories for additional sampling.

Control territories were selected as the territory in each region that best matched the test territory on the following criteria over the past three months:

prescription volume

market share

market share growth

sampling levels

To ensure that the control territories continued to promote as they had in the past, the field test was started with little fanfare. The only sales representatives aware that a test was underway were those in the 14 test territories. The remaining representatives were purposefully not made aware of the test.

The results

During the threemonth test period, prescribing and sampling levels within test and control territories were tracked and interim reports provided to management. At the test's conclusion, a final comprehensive analysis was done. The results were impressive, with a 15.1 percent growth in the test territories versus a 9.6 percent growth in control territories.

These results pointed to two important conclusions. First, the neural network model was very accurate in its predictive capabilities. The computer simulation had predicted a 14.7 percent increase in prescribing activity and prescribing activity in the field test grew by 15.1 percent. The more powerful result came from an analysis of the difference between the test and control territories. The difference between test and control territories, however, was 5.5 percent. This incremental growth was statistically significant with 96-percent confidence.

DextraPharm achieved an ROI in excess of 30 percent on this field test. The results were presented both to executive management and to the broader field force in order to gain a company-wide understanding of the results. Following this field experiment, DextraPharm made a commitment to implement the revised sampling strategy with the entire sales force.

Conclusion

There is a lot of "buzz" across industries these days about companies using the information hidden within their databases to become more efficient and profitable. While this possibility exists in the pharmaceutical industry, manufacturers must use field-proven tools and roll out innovative programs carefully to ensure executive management and field acceptance. Implemented

correctly, data mining technologies customized for the pharmaceutical manufacturers' unique marketing environment can now assist management in driving sales through smarter allocation of promotional resources

(Graph Omitted)

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The PC Evolution: Desktop . . . Laptop . . . Palmtop . . . ?top

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ABSTRACT: The new wave of subcompact computers currently encompasses 3 basic types: 1. notebook laptops, 2. pen-based computers, and 3. pocket or palmtop computers. The trend in downsizing that these units represent is merely a continuation of what has been happening to personal computers (PC) in general since the early 1980s, with units getting smaller, more powerful, and less expensive. The notebook units have a new microprocessor chip, smaller disk drives, and thinner display screens - all of which allow salespeople to perform the same functions using a smaller, lighter package. Notebook vendors are engaging in a furious competition to differentiate their portables from those of competitors and are thus helping to bring numerous improvements to the genre. President of GRiD Systems Allan Lefkof believes that, by eliminating the keyboard, pen-based handhelds will attract a whole class of users who have shied away from computers altogether. The pocket-size palmtop computer, such as the 1.1 pound unit from Poqet, is for the highly mobile user who needs a very lightweight product.

TEXT: THE PC EVOLUTION: DESKTOP . . . LAPTOP . . . PALMTOP . . . ? TOP

A new breed of smaller, lighter, more dexterous laptops is helping eliminate a lot of the standard objections to PCs. In fact, there's even a machine for salespeople who hate to type.

At long last, portable really means portable, as far as sales and marketing applications for PCs are concerned. A number of new "smaller-than-laptop" units now offer more power, greater ease of use, and greater flexibility to companies seeking to boost sales productivity, improve the effectiveness of sales calls, shorten the sales cycle, streamline communications between field salespeople and the home office, and provide the sales rep with easier access to a variety of data.

This new wave of subcompact computers currently encompasses three basic types: 1) notebook laptops, which have the functionality of a desktop PC but weigh only 5 to 7 pounds and fit easily into a briefcase; 2) pen-based computers, which eliminate the salesperson's biggest bane, the keyboard; and 3) pocket or palmtop computers, which weigh about a pound and fit in the hand or a jacket pocket.

The trend in downsizing that these units represent is merely a continuation of what has been happening to PCs in general since the early 1980s, with units getting smaller, more powerful, and less expensive. Specifically, however, it's tumbling prices that have made these new technologies even more attractive for marketers investing in sales force automation.

HI-TECH HISTORY

On the PC evolutionary scale, notebooks appeared first (they debuted in late 1988, followed by pen-based models in early 1990 and pocket-sized units late last year) and have subsequently been rocked by the price wars that inevitably follow any technological advancement in the PC industry.

Andrew Seybold, associate director of microcomputer systems service at Dataquest, a San Jose, Cal., market research firm, suggests that "notebook laptops are now a commodity product," noting that it was only last October

that Compaq announced a notebook laptop priced at \$6,499. Then AST offered the same basic product at 6 pounds for less than \$3,000. At Comdex/Fall 90 (the PC industry's annual convention/exposition, held in November), among the 20 to 30 new notebook products that appeared, the Taiwanese announced products in the \$2,100 to \$2,200 price range. "All of a sudden," says Seybold, "there was a standard 8-1/2" x 11", 5- to 7-pound 386SX product available that is definitely clonable."

Currently, notebooks fall into two broad price categories, depending on the microprocessor chip being used. According to the latest buying guide published by Portable Office magazine, older, 286-based machines (which still dominate the market) range from around \$1,900 (Austin Computer Systems' 6-lb. Austin 286-12) to just over \$4,000 (Texas Instruments' 6.7-lb. Travelmate LT286/12), while models using the newer 386 chip range from just under \$2,700 (Austin Computer Systems' 6-lb. Austin 386/SX) to \$5,499 (Texas Instruments' 5.7-lb. Travelmate 3000).

Pen-based and pocket computers, however, still carry price premiums. That's because their niches are still dominated by single companies --Tandy Corp.'s GRiD Systems, whose pen-based GRiDPad retails for \$2,370, and Poget, Sunnyvale, Cal., whose hand-held Poget PC costs \$1,995. But as more entrant emerge in all three market segments, and as production runs ramp up, downward pressure on prices will intensify.

System developers who specialize in computerized sales systems -- such as DataOne, Moline, Ill.; Envoy Systems, Waltham, Mass.; Sales Technologies, Atlanta; and the Hugh Carver Group, Plainsboro, N.J. -- all report significant numbers of clients either installing or conducting feasibility studies on notebook-type portables. Pen-based models are attracting a high degree of interest, they add, but interest in hand-held or palmtop machines is still rare.

Corporate moves into sales force automation have helped make notebooks the PC industry's hottest product, witnessed by the fact that they're expected to account for half of all laptop sales over the next few years. In fact, according to DataOne CEO Ron Glassner, notebooks should replace larger laptops as the computer of choice for most sales applications -- except for those applications calling for extra card slots for peripherals. Actually, this trend is already well under way. Shipments of IBM-compatible notebooks jumped a whopping 566% to 280,000 units in 1990, according to Mark Lewis, an analyst at International Data Corp., a Framingham, Mass., market researcher, and will almost double again to 535,000 units this year, despite lackluster sales by the PC industry as a whole.

THE RIGHT SIZE FOR SALES

Somewhat ironically, the notebooks don't enable sales reps to do anything with a computer that they couldn't do before. The biggest difference is the new microprocessor chips (which do what several components used to do), smaller disk drives, and thinner display screens -- all of which allow salespeople to perform the same functions using a smaller, lighter package.

Notebook units are being used in presentations by salespeople in the insurance industry, for instance, to illustrate different scenarios for changes in policy value. And, according to Ron Glassner, salespeople for the big oil companies regularly use notebooks to record and update changes in spot oil prices. As Thomas Martin, vice president of marketing for Toshiba America Information Systems in Irvine, Cal., puts it: "Because the notebook is so portable, in most cases there's no reason not to have it wherever you go."

The smaller footprint (the standard notebook measures 8-1/2" x 11" x 1/2" is as important as the lighter weight in fostering greater usage among salespeople. "Previously, a laptop was an extra piece of luggage the salesperson had to struggle with in an airport," says Don Plumley, president of SalesSolutions, Irvine, Cal. "Now that it fits easily into a briefcase, there's one less piece of luggage to worry about."

"If the salesperson can put a six-pound machine into a briefcase," adds Jeffrey Howard, industry sales manager for Envoy Systems, "he's more likely

to take it with him and use it more frequently."

Notebook vendors are engaging in furious one-upmanship to differentiate their portables from those of competitors and are thus helping to bring a slew of improvements to the genre -- in particular, the 386 processor and VGA (video graphics array) standard screen. For example, Compaq scored a victory over rivals late last year when it incorporated the 386SX chip and VGA into its LTE 386s/Model 20 (\$6,499, 30MB hard disk) and Model 30 (\$6,999, 60MB hard disk).

A month later, however, Toshiba countered with its powerful notebook, the T200SX, the first portable to depart from the industry's standard nickel cadmium (NiCad) battery and incorporate nickel hybrid battery technology. According to Toshiba marketing vice president Tom Martin, the new battery -- when compared to NiCad types -- offers a 22% improvement in power capacity per unit weight, recharges in half the time, doesn't suffer a decrease in maximum charge after repeated recharging, and is lighter overall. As a result, the T200SX's 6.9 pounds is a half-pound lighter than Compaq's LTE 386s, as well as \$1,000 cheaper. However, its footprint, at 10" x 12", is bigger than Compaq's 8-1/2" x 11".

Use of Intel's 386SX chip and VGA, which has 640 x 480 pixels, has become standard for high-end notebooks because they enable the machines to handle a broad range of business computing tasks. Paul Proulx, vice president of engineering for Envoy Systems, notes that the combination of 386SX and VGA allows Microsoft's Windows 3.0 software to run on notebooks: "That will bring a lot more applications to the user." However, it's worth noting that Windows is best utilized with a color screen, a feature still out of the reach of notebooks.

Whereas the first notebooks offered diskette-only capability, many newer models contain both a diskette and a hard drive, the latter with as much as 20- to 60-MB capacity. The bigger memories are especially helpful to salespeople, who regularly require more storage capacity for extensive data and product information.

Despite this impressive array of improvements, however, notebooks are still hobbled by the linchpin of their portability -- the power source. The battery in a notebook laptop is good for three hours at most, takes too long to recharge, and suffers a reduction in peak power with each recharge. With no technological breakthrough in sight (in spite of the improvements claimed for Toshiba's new battery), notebook makers are scrambling to develop features that will cut down on battery drain. The new 5.75-lb. Travelmate 3000 by Texas Instruments, for example, boasts sleep-mode features that turn the hard disk off and slow the CPU to half-speed when the notebook is idle. Prices: \$5,499 for the 20MB hard disk version, \$5,999 for the 40MB version.

Next to longer battery life, the use of color is high on users' wish lists, especially for what it can offer to sales presentations. Both Toshiba and Sharp Electronics unveiled color portables at Comdex/Fall 90, but with price tags nudging \$10,000, there's little chance salespeople will see them until prices come way, way down --which could take as long as three to five years.

In the meantime, there are some who claim that more powerful notebooks represent overkill in the sales arena because reps don't need all the capabilities of a full-function laptop. Richard Brock, for example, who is chairman of Brock Control Systems, a sales software developer in Atlanta, notes one viable alternative: the portable data terminal.

Brock markets a system that includes, in addition to his own software, the Walkabout/SX -- a battery-powered portable data terminal made by Data General of Westboro Mass. --and the 4-lb. Canon BJ-10e bubble-jet printer made by Canon USA in Lake Success, N.Y. Brock's software is installed on a host computer and the sales rep accesses it with a Walkabout via a phone line. "If the rep wants a customer record," Brock explains, "a menu shows up on the screen, the rep hits a key, and the record appears. After each

sales call, the rep again calls up the customer record and updates it. The rep gets the benefits of a computer without worrying about making backup copies or hitting the wrong key and destroying a file."

The package price for such a system ranges from \$1,500 to \$4,500 per user, with a three-user minimum. Still, while the Walkabout unit may serve a sales rep's communications need, its considerable heft (almost 14 pounds) is one more reason why notebooks have become No. 1 on the hi-tech hit parade.

THE MIGHTY PEN

"I don't want to become a typist" is perhaps the most off-heard complaint when talk turns to sales force automation. Now, with some of the new pen-based computers, that complaint may no longer be valid.

GRiD Systems, a Tandy Corp. subsidiary, ushered in this new leading edge of PC technology about a year ago with its GRiDPad, a 4.4-lb. hand-held computer that uses a tethered pen stylus instead of a keyboard. The pen is used to select options by touching or directly writing on a screen. GRiD's president, Allan Lefkof, believes that by eliminating the keyboard, pen-based hand-helds will attract a whole class of users who up to now have shied away from computers altogether. The computer, or "electronic clipboard," as Lefkof calls it, has a 5" x 8-1/2" screen, a four- to eight-hour battery life, and because it's IBM-PC compatible, can transmit information to a branch office or headquarters computer.

Although it lacks the storage capacity, speed, and flexibility required for full-blown applications, the keyboardless GRiDPad has research firms trotting out glowing forecasts -- including one that suggests the genre could capture 20% of the portable PC market by mid-1992.

In the sales arena, Peter Teige, senior analyst at InfoCorp, a Cupertino, Cal., research firm, says, "Applications that make sense (for pen-based computers) include any hand-filled-out form, freehand drawing, personal organizers, spreadsheet manipulation, and brief notes and memos. Applications where pen-based computing doesn't make sense include text entry or word processing, general business, building spreadsheets, statistics, and point-of-sale."

Pen-based laptops are seen as an ideal mobile unit for those situations where a conventional laptop can't be used because it has to rest on something, such as a desk, in order for the user to work the keyboard. Thus, the initial use by salespeople of pen-based units, which Vern Raburn, CEO of Slate Corp., a provider of software for pen-based computers, refers to as "one-hand" or "stand-up" computing, will focus primarily on tracking and information-gathering activities in retail stores and warehouses. The implication here is that if the pen interface catches on, salespeople will be asked to tackle more market research tasks.

Best Foods Baking Group, one of the early adopters of the GRiDPad, has its route salespeople use the tablet to track deliveries of baked goods to supermarkets. The company reportedly hopes to reap \$1.5 million a year from reduced returns of stale goods, better cash flow, and fewer billing errors.

Modatech, a Vancouver, British Columbia, developer of sales software, is now designing a multifunction pen-based information system for one of its clients that sell through retail stores. "Their salespeople have the responsibility for in-store merchandising of the product, as well as collecting information on shelf facings," explains Derek Schwartz, executive vice president of Modatech.

"Because they couldn't use a laptop while standing in front of a shelf display, they relied on clipboards. Substituting a pen-based computer for the clipboard not only means less pain for users -- and less resistance because they don't have to learn how to use a keyboard -- but also adds a tremendous amount of functionality to their work. They'll use the pen-based

units to check off information on a preformatted form, write in numbers, and add comments on what they observe about competitor activities."

Salespeople at Marion Merrell Dow, Kansas City, tote a GRiDPad instead of drug samples when calling on their doctor clients. In a break with industry tradition, the salespeople have doctors sign electronic forms to order samples. Motivating the company is the Food and Drug Administration regulation requiring greater accountability for samples given to physicians and hospitals and fines for the failure to do so.

However, pen-based computing suffers from the fact that handwriting recognition is still a primitive art where computers are concerned. Currently, the pen-based user has to write in very careful block letters, since the computer can't yet decipher the standard salesperson's scrawl.

"In view of the handwriting problem," says Gartner Group's Leslie Fiering, "the pen is easier to use when you have a preformatted page, because that solves the problem of where the input fields should be. I believe most users today are taking that route."

Opinions tend to differ on how fast the handwriting-recognition hurdle will be overcome; some think it may prove too daunting a task. As one participant in the Comdex/Fall 90 panel put it: "Since a lot of people can't recognize their own handwriting, why should we think that a computer will be able to?"

Some feel that even if the handwriting and other problems are licked, pen-based computing will still be best for niche applications. Don Plumley, for one, doesn't think it's feasible for major account selling in business-to-business marketing: "GRiDPad's limited storage just can't handle the volume of data a salesperson relies on for customer profiles and forecasts."

Furthermore, despite the ease of writing vs. keying in text and numbers, it's doubtful that salespeople will write reports or lengthy memos by hand, since they can usually be done faster with a keyboard. However, as a new report from Market Intelligence Research Co., a Mountain View, Cal., research firm, notes, "For editing or making changes in files once they're created, the pen is ideal."

This year should see considerable progress in making the electronic stylus more usable, which will in turn help drive prices downward, if only for the simple reason that competition in the market will heat up substantially. Although GRiD has the market pretty much to itself at this point, two smaller firms are already marketing rival versions: Data Entry Systems, a small Huntsville, Ala., start-up, sells ScriptWriter (\$1,595); and Linus Technologies, Reston, Va., has Write-Top (\$2,800-\$3,600), a 9-lb. tablet with 640KB of memory. GRiD's dominance will also be challenged as a lineup of heavy hitters readies a plunge into the pen-based market.

NCR Corp., Dayton, Ohio, shows signs of being the first big name to go head to head with GRiD. At Comdex/Fall 90, the company previewed a 6-lb. stylus system it's developing for corporate accounts in conjunction with Communications Intelligence Corp. of Menlo Park, Cal., a developer of handwriting recognition software. A template that has writing space for entering handwritten data is surrounded by squares that correspond to standard keyboard functions, such as a cursor and control and numeric keys, that the user touches to execute a command.

IN THE PALM OF YOUR HAND

For those sales reps who think even a 4.5-lb. pen-based computer or a 5- to 7-lb. notebook is too much to heft, there's yet another option to consider: the pocket-size 1.1-lb. palmtop (\$1,995) by Poqet. Measuring 8-3/4" x 4-1/3" x 1", the Poqet has a 6-3/4" x 2-1/4" screen that shows the usual 25 lines and 80 columns, and the company claims it will run for 100 hours on two AA batteries. In addition, the hand-held uses MS-DOS, making it possible to use standard software programs.

Although hand-helds marketed by the likes of Telxon, MSI Data, and Norand have been around for some time, they've been hobbled by the fact that, for the most part, their keyboards are fairly complex, their screens are too small to display standard business forms, and they rely on proprietary software. And in spite of the fact that Poqet uncorked some unusual firsts in this particular niche, it has had only limited success in getting around those roadblocks.

As Bruce Stephens, director of PC hardware research for International Data Corp., stresses, "Portables are always a market of tradeoffs. The Poqet is for the highly mobile user who needs a very lightweight product and wants to pull it out at any time." Stephens notes that while pocket computer technology is in its infancy, "it will develop and become more attractive over time. At this point, however, Poqet's price is simply too high." This computer's diminutive design owes much to an innovative memory: Space-hungry disk drives have been replaced by credit card-size memory cards that fit into two slots. The slots accommodate both 512K RAM (random access memory) for storing programs or data and preprogrammed 640K ROM (read-only memory) cards for applications. However, the cards price out at a cool \$500 each vs. \$10 or so for floppies.

That Poqet sees sales forces as a primary target market is underscored by the fact that one of the first ROM cards it's bundling is Act!, the contact management software marketed by Contact Software, Irving, Texas. Indeed, the company reports that, based on returned warranty cards, salespeople are among the top three Act!-user categories.

Despite lingering screen and price problems, this hasn't stopped some early devotees from giving the Poqet to salespeople. Warner Brothers International, Burbank, Cal., for example, is equipping its 200-member international sales force with Poquets, according to William Kotter, director of international data processing. Salespeople use a 6-oz., \$345 modem Poqet provides to dial a host computer at Burbank headquarters, downloading all the information they need for a particular sales call.

Like GRiD, Poqet faces only limited competition in the recently reborn hand-held market. Atari sells a scaled-down \$399 pocket computer that runs for 48 hours, the company claims, on three AA batteries. However, its tiny keys and 8-line screen will likely require a hard sell to salespeople who are used to 25-line displays.

Another competitor is the British PC-maker, Psion Ltd., which claims to be the world's largest seller of hand-helds. The company is attempting to establish a beachhead in the United States with a line of eight such models. Among the marketing ploys used by Antony Revis, president of Watertown Conn.-based U.S. operations, to edge into the market is an Executive Hand-Held Computer Kit that consists of a notebook-sized leather case (10" x 7" x 1-3/4") that, when opened, holds an IBM-compatible Psion Model a hand-held and applications software on one side, and a binder for a personal diary or calendar on the other. The price: a mere \$720, although you have to settle for a tiny four-line screen and limited memory (32K RAM and 64K ROM). However, all Psion hand-helds use a solidstate, built-in drive for mass off-line storage.

One of Revis's first sales was to Liberty Mutual, which equipped each of its salespeople with a two-line Psion hand-held, customized software, and a portable printer that fits onto the top of the computer. The salespeople now enter the relevant variables into their hand-helds, call up information on the screen, and print out quotations or estimates on the spot.

In the future, the hand-held arena is likely to see more use of so-called "electronic organizers," such as the Sharp Wizard and Casio Boss, for sales purposes. Despite the fact that their computing functionality is limited, they do lend themselves fairly well to specialized applications.

Pepsi Cola, for one, is testing the Wizard with its field marketing people.

In this case, a rep goes into a store to check on shelf stock, calls up a table that shows the store's inventory of various Pepsi products the previous week (and what Pepsi has delivered since then), and uses the information to calculate the store's sell-through. The rep can then spot trends and make recommendations to the store manager on how to optimize the sell-through.

A FEAST OF CHOICES

For all the remarkable advances that the makers of downsize laptops rhapsodize about, portables are still far from being a technological grail. Primarily, laptops are notorious for having breakdown rates far higher than those of desktops, and the price for repairing them tends to go up in direct proportion to the complexity of the technology involved.

In any event, the fact that these three types of PCs will continue to evolve and be refined means that corporate policies that dictate the selection of a standard laptop for use by the entire sales force will have to be altered. Tomorrow's sales force will likely be equipped with an array of laptops, each sales rep opting for the machine best suited for the task at hand.

As Ralph Linsalata, Envoy Systems' president, observes: "A sales organization isn't a monolithic force. You have to tailor the devices to the different skill levels of individual sales reps." With all the various applications and niches involved, it's a safe bet that marketers will have a rich menu of options to choose from.

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GEOGRAPHIC NAMES: US

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07194409 Supplier Number: 61402102 (THIS IS THE FULLTEXT)
Access Worldwide Ships 20 Million Sample Units From Pharmaceutical
Fulfillment Center in 1999.

PR Newswire, p1391

April 7, 2000

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TEXT:

Company Increases Number of Sent Units by Over 33% in Record Breaking Year
BOCA RATON, Fla., March 3 /PRNewswire/ --

Access Worldwide Communications, Inc. (Nasdaq: AWWC), a leading marketing services organization, today announced that the company shipped 20 million sample units to physicians and medical personnel from its sample fulfillment center in 1999. This amount is an increase of more than 33% from the previous year and a record for the company. Access Worldwide maintains the nation's largest outsourced Drug Enforcement Administration approved sample fulfillment center located in Lincoln Park, New Jersey.

Access Worldwide operates a state-of-the-art distribution center that ships drugs and product literature to medical personnel on behalf of pharmaceutical companies. ~~Access Worldwide's single-loop system validates all requests for drugs using state licenses, American Medical Association, and Drug Enforcement Administration databases. Valid shipping manifests and labels are generated as the company picks, packs and ships samples to targeted medical practitioners.~~ Follow-up letters are produced, driven by an automatic reject system. The system processes and stores Acknowledgements of Delivery, closing the sample fulfillment loop. Returned products are quarantined and processed for destruction. A destruction acknowledgement closes the returned goods loop. A recent audit completed in January 2000 found zero defaults and zero unaccounted for sample shipments.

Robert Regazzi, Chief Operating Officer of Access Worldwide's sample fulfillment and database management center stated, "During the past year, we have focused a significant amount of time and resources improving and upgrading our sample fulfillment center, including the opening of a third warehouse. It is clear that our efforts have been successful with 20 million sample shipments in one year. I am excited by our momentum."

Access Worldwide provides outsourced sales, marketing and medical education services to more than 100 clients in the pharmaceutical, telecommunications, financial services and consumer products industries. The company designs and delivers innovative, data-driven sales and marketing solutions that maximize clients' sales and profits. The company has particular expertise in reaching key pharmaceutical audiences-physicians, pharmacists and patients-and targeted consumer groups. Access Worldwide's resources include proprietary databases of targeted consumers, physicians and pharmacies; strategic planning and market research services; medical education; medical meetings management; medical publications; inbound and outbound teleservices in 15 different languages; electronic territory management systems (ETMS); and Drug Enforcement Administration approved drug sample fulfillment and direct mail capabilities. Additionally, the company has significant information technology and Internet solutions capabilities. Access Worldwide has over 1,600 employees and representatives in offices throughout the United States.

This release contains forward-looking statements that are subject to risk and uncertainty. Access Worldwide's actual results could differ materially from those discussed in such forward-looking statements due to various factors which are outside the company's control, such as a reliance on a limited number of major customers, the need for growth management, acquisition risk, competition, industry consolidation, potential consumer saturation, and the uncertainty as to whether the company will be able to restructure its debt with its banks. For a more detailed discussion of these factors and others, see the risk factors section of Access Worldwide's Annual Report filed on Form 10-K.

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05975478 Supplier Number: 53274687 (THIS IS THE FULLTEXT)
**Siebel Systems Delivers Siebel 99 -- The Industry's First Entirely
Web-Based Front-Office Application Family.**

Business Wire, p0009

Nov 30, 1998

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1246

TEXT:

SAN MATEO, Calif.--(BUSINESS WIRE)--Nov. 30, 1998--

Siebel 99 Helps Organizations Deliver Higher Value to Customers
by Empowering their Sales, Marketing and Service Professionals
Organizations seeking to increase sales force effectiveness, better
leverage marketing knowledge and improve customer service, can now bring
these functions together in one integrated, entirely Web-based product,
Siebel 99. Siebel Systems' (Nasdaq:SEBL) new family of Enterprise
Relationship Management (ERM) applications, Siebel 99, delivers extensive
new functionality to both end-users and corporate IT. With Siebel 99,
organizations can "configure once, deploy everywhere," making it easier
than ever to deploy Siebel software to disconnected mobile users on laptops
and handheld devices, connected call center users on desktops and
intermittently connected users over the Internet.

"By creating a solution that anticipates the issues that will
confront users in the future, Siebel has again demonstrated its ability to
be a trailblazer in the enterprise business application software market,"
said Hugh Bishop, Vice President, Aberdeen Group. "Siebel 99 resonates with
the real needs of the market -- namely integrated sales, marketing and
customer service; Web-centric design; and the need of user organizations to
deploy solutions directly to their customers, resellers and business
partners."

Siebel 99 brings to market the most comprehensive family of
enterprise-class applications available today, designed from the ground up
to meet the complex needs of global organizations, and create a
"closed-loop" sales, marketing and customer service information system.

"We have been testing Siebel 99 for use in our 1,000-agent call
center and have been very impressed with the new products," said Honorio
Padron, CompUSA's Chief Information Officer. "Test results are very
encouraging and we expect to achieve across-the-board productivity
increases. We plan to deploy Siebel 99 to our entire call center and field
sales force in the near future."

"Siebel 99's web-based architecture allows companies to further
extend access to corporate data throughout the entire enterprise, to unite
their third-party resellers, service providers, business partners and
customers into a single, common information system," said David Schmaier,
Siebel Systems' Senior Vice President, Products. "With Siebel 99,
organizations have expanded functionality to provide value at every point
of interaction with the customer."

New in Siebel 99

First Entirely Web-Based Architecture

Siebel 99 allows sales, marketing, and service professionals to
access Siebel software using standard web browsers, such as Microsoft
Internet Explorer or Netscape Communicator, with no software installed on
the client computer. Full "thin client" support allows organizations to
deploy customized software to all users instantly through their web
browser, dramatically reducing software deployment costs.

"Configure Once, Deploy Everywhere"

Siebel 99 is now available anywhere users are, allowing companies to
deploy Siebel software to disconnected mobile users, connected call center
users and intermittently connected users over the Internet. This empowers
geographically dispersed sales, marketing and service professionals -- as
well as partners, resellers and customers -- to access customer data via
Siebel 99 on the platform of their choice.

Siebel 99's applications are built on a foundation of configurable

business objects, which can be modified using an integrated, graphical tool suite to meet the unique requirements of each organization. Only Siebel delivers one architecture, one set of business objects, one configuration and one deployment.

Immediate Value to Sales Professionals

Siebel Sales Enterprise helps organizations shorten and manage the sales cycle across multiple distribution channels. It includes a comprehensive opportunity management system, product and revenue forecasting system and automated territory assignment. Siebel 99 extends this functionality with expanded automation features that help eliminate time-consuming tasks and allow sales professionals to focus on their business, including: -0-

- A complete presentation generator to create customizable presentations with the press of a single button
- An automatic expense reporting tool for rapid preparation and reimbursement for local and international travel
- "Smart Reports", that allow users to quickly generate results of their sales activities in an easy-to-read format

Complete Marketing Information Solution

Siebel Marketing Enterprise enables marketing professionals to measure the effectiveness of a company's marketing programs. It includes a broad range of pre-built analyses of customers, competitors, campaigns and products. Now with Siebel 99, marketing professionals have even more tools to thoroughly analyze and segment customer and market information to create targeted campaigns and promotions, including:

- A comprehensive, pre-built datamart optimized for marketing analysis
- An Online Analytical Processing (OLAP) engine to perform complex analyses
- One-button campaign generation, to identify a market segment and automatically create a targeted campaign with associated prospects and contact information

Comprehensive Solutions for Service Professionals

Siebel Service Enterprise and Siebel Call Center are designed to optimize customer service operations. With powerful CTI integration, and complete support for service request and customer profile management, organizations can improve the value of each customer interaction. Siebel 99 dramatically enhances this functionality, providing representatives with tools to serve customers more rapidly and accurately, including:

- Siebel Field Service - the first complete mobile field service automation application, to meet the unique needs of field-based service professionals
- Siebel SmartScript - a robust, dynamically generated user interface that coaches agents through customer interactions to ensure call quality and data accuracy, and reduce training time
- Asset management, to track customer configuration changes at customer sites
- Entitlement verification to quickly identify the level of support to which a customer is entitled

First Industry-Specific ERM Solutions

Siebel 99 expands Siebel's ERM suite with the most complete family of pre-built market-specific software. Siebel Industry Solutions allow organizations to deploy sales, marketing and service automation applications to ensure rapid deployment by minimizing application customization and leveraging industry-specific functionality. Siebel 99 Industry Solutions include:

- Siebel Insurance. Empowers field agents, brokers and call center professionals with all the information they need to manage every facet of their customers' insurance needs for property and casualty, life and health lines of business.
- Siebel Finance. Delivers comprehensive retail and wholesale sales and service functionality for banking and brokerage organizations. Siebel Finance provides a single view of the customer across multiple distribution channels that sell and service multiple product offerings.
- Siebel Communications. Provides wireline, wireless, cable and Internet service providers with a single, consolidated view of the customer and automatically configures and modifies customer-specific communications services, price bundles and quotes in real-time.
- Siebel Pharma. Enables sales representatives to profile and target physicians and hospitals, manage historical drug prescriptions, and measure the impact of drug samples and pharmaceutical products over time.
- Siebel Consumer Goods. Empowers key account managers, retail managers and brand managers to create, distribute, manage, monitor and track simultaneous promotion plans across products, categories, accounts and regions.

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Pricing & Availability

Siebel 99 is planned for general availability in December 1998.

Siebel 99 has a wide range of product modules available for Sales, Marketing, Service, Field Service and Call Centers. Base pricing for Siebel Sales Enterprise and Service Enterprise starts at \$1,350 per named user.

About Siebel Systems

Siebel Systems, Inc., (Nasdaq:SEBL) is the world's leading supplier of Enterprise Relationship Management software systems. Siebel Systems provides an integrated family of sales, marketing and customer service application software for field sales, customer service, telesales, telemarketing, field service, third-party resellers and Internet based e-commerce and self service. Siebel Systems products are designed to meet the needs of small, medium and large businesses. Siebel Systems sales and service facilities are deployed locally in over 20 countries and can be reached through the World Wide Web at www.siebel.com.

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03152289 Supplier Number: 44305222 (THIS IS THE FULLTEXT)

A JUMP ON SALES?: Wireless networking can give sales reps more freedom in the field, but many organizations aren't quite ready to take the plunge
CommunicationsWeek, p34

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By KELLY JACKSON HIGGINS

SPECIAL TO COMMUNICATIONS WEEK

WHEN STOCKBROKER Martin Burger taps into his company's database of stock quotes remotely with his new AT&T Eo Inc. Personal Communicator, he does so the old-fashioned way: over plain old telephone lines.

His actions seem paradoxical, especially since the new generation of personal digital assistants - computers small enough to slip into your coat pocket - are touted for their ability to operate over networks without wires.

But most users in the sales field, including Burger, who is a contractor for San Francisco-based Financial West Group, aren't yet sold on wireless. The majority of sales representatives don't even carry PDAs. They often still make their sales calls with pen and paper and then type orders into a laptop at their office or hotel, and then transmit the data over phone lines. 'The dominant tool for salespeople is the laptop,' says Ken Dulaney, director of sales leadership strategies for The Gartner Group Inc., Stamford, Conn.

The trouble is, keyboard-based laptops can make sales reps less efficient. 'Laptops tend to make sales reps into jacks of all trades, spending a lot of time keying in their data and electronic mail,' says Dulaney. 'That takes them away from what they do best: getting out and meeting the customer.' Pen -based wireless PDAs, on the other hand, can enable real-time order placement and inventory inquiries while freeing reps from the hassle of the keyboard.

A Difficult Balance

Justifying new mobile-computing technology has been difficult for companies automating their sales forces. As the role of the field sales force becomes increasingly vital, organizations are desperately searching for ways to better automate their reps without overburdening them with new technology.

But despite the fact that going wireless would let reps send and receive data from most major cities without having to hook up to a phone line, the technology is a tough sale. Users say wireless is often too costly and unreliable and that the options - choosing between cellular and radio, for example - are too confusing.

'PDAs and wireless are intriguing technologies, but we just don't think they are here yet,' says Bob Corney, manager of the computer information center at Wawa Inc., the Wawa, Pa.-based convenience-store chain. Corney and other users contend that the technologies are still too new and unproven for wide -scale deployment.

Today, more than 100 Wawa field managers, who supervise individual Wawa stores, use palmtop computers such as the IBM ThinkPads and NEC Technologies Inc. Versa for tasks such as checking inventory and sales information on company databases. The palmtops, which run off-the-shelf Microsoft Corp. Windows-based applications, are linked to mid-range computers at the home office via terminal-emulation software and direct phone lines.

That doesn't mean users like Wawa have dismissed wireless altogether. Most envision their sales reps placing orders and checking product inventory with some form of wireless communication in perhaps as early as three to five years from now. They are already starting to put pen-based

computers in the hands of sales reps to free them from having to type.

'Wireless is my ultimate goal. But for now it's too expensive, and I'm not confident that the available wireless services (with their gaps in coverage and proneness to interference) provide the level of professionalism I need for my job,' says Burger.

It is unclear whether wireless services are actually too expensive or whether they suffer from users' faulty perceptions about pricing.

At first glance, wireless service pricing appears reasonable. The monthly bill for service over the nationwide Ardis packet-radio network, for example, is based on actual usage. Officials of Lincolnshire, Ill.-based Ardis say the average bill is \$30 to \$50.

RAM Mobile Data Inc., New York, offers tiered pricing packages based on volume. A user who sends more than 200 typed pages of text a month, for example, would pay \$135 per month, the rate for unlimited usage.

Hidden Costs?

Any hidden costs associated with wireless service, however, are difficult to identify and track, since users are few and far between and services tend to be customized.

The most widely used remote networking method for salespeople is direct dial -up. Insurance agents, for example, incur an average of \$100 to \$120 per month in dial-up telephone-line charges, says Gene Hengel, director of strategic technologies for Insurance Value Added Network Services, an organization that provides network services for insurance companies.

Dallas-based IVANS is testing Kirkland, Wash.-based McCaw Cellular Communications Inc.'s new cellular data service, AirData, which is based on the Cellular Digital Packet Data (CDPD) standard. Among other applications for the wireless network, IVANS will offer the service to insurance salespeople in the field so that they can supply instant policy information to customers.

'This service has the capability to move data and (provides) adequate response time for on-line transactions,' says IVANS' Hengel. 'The only outstanding question is price,' the details of which the organization is still hashing out.

Hengel says he expects the CDPD service to cost about as much as wired network links. The savings for users will come with productivity gains and customer service improvements, he says.

So far, only a handful of user companies have outfitted their sales forces with wireless networks, and most are hesitant to discuss their applications publicly for fear of losing their competitive edge.

This Cell's for You

Anheuser-Busch Cos. Inc. is among the pioneers cutting the sales-force wires.

The St. Louis-based brewing company plans to begin outfitting 5,000 of its sales reps with analog cellular connections from US West Cellular Inc. and McCaw next month, says Richard Sleight, manager of wholesaler computer systems at Anheuser-Busch. Opting for the more-entrenched analog cellular technology initially, the company plans to migrate to CDPD in the future, says Sleight. Because it's digital, CDPD lets users transmit data more cheaply and reliably than regular cellular phone lines.

Currently in the pilot stage, Anheuser-Busch's analog cellular service connections 'now cost us about \$16 per person over a three-week period,' Sleight says. After the full production implementation begins next month, Sleight expects to cut that bill in half.

'From our sales reps' perspective, it will be cheaper than dropping quarters in a pay phone to send data' from their laptops to the home office.

Anheuser-Busch discovered that cellular was more cost-effective than radio -based wireless technology because of the volume of transmissions the company's sales force sends. 'Our beer orders were about 1- to 1-1/2 -kilobyte files, mostly numbers, which was too much data in a small chunk for Ardis' wireless network,' says Sleight. That network is optimized for larger chunks of data transmitted over a longer period of time, he says.

It's no secret that both radio and cellular technologies have their limitations when it comes to sending large files, especially ones fat with graphics and formatted text. 'You don't want to move big documents over a wireless network,' says Howard Case, vice president of wireless messaging

at RAM Mobile Data.

The larger the file, the slower the transmission and the greater the chance of garble. Even RAM Mobile Data's own sales reps use dial-up lines for files of 1 megabyte or more, says Case.

Anheuser-Busch's Sleight says that although the pilot cellular service has frequently disconnected users on-line during the past month, he isn't concerned. 'We usually get two to three failures out of five attempts, but we just dial again,' he says.

Semi-Wireless Prescription

Tim Titus, vice president of F.D. Titus & Son, a medical-supply company and another pioneering sales user of wireless, plans to provide a mix of circuit-switched cellular and regular network access for its sales force of more than 100 reps by June. The sales reps will send and receive both small and large files from their AT&T Eo Personal Communicators - everything from sales orders to downloads of product information from the company's catalog.

The hybrid service will let the reps opt for the best medium for their transmission. 'It's faster to send one 200-kilobyte file, for example, over wire,' says Titus. 'And (wireless) circuit switching has interference problems.'

Although CDPD is supposed to be immune to such disruptions, Titus and other users say they are concerned that it won't be cost-effective to send large files over CDPD networks. To date, a handful of Titus & Son sales reps have been communicating wirelessly.

But technology for technology's sake doesn't sell well, and many companies are carefully examining the situations where wireless technology makes sense in sales.

Wiring the Right Reps

Wireless access is cost-effective, for example, only in certain types of inventory applications. 'Sales reps aren't going to do line-by-line inventory checking today,' says Robert Gressler, president of Parsippany, N.J.-based integrator Computers at Work, which specializes in automating sales forces. 'The value of doing that is erased by the cost of the wireless access to do it. If they want (line-by-line) inventory, they can download it' by less expensive wired methods, he says.

Some users, like Anheuser-Busch, only now are discovering the importance of real-time networking. The key, industry experts say, is the nature of the sale: If it is a time-sensitive transaction, then wireless is appropriate. Wireless would not necessarily be ideal for a pharmaceutical company representative who is merely distributing prescription drug samples and other products to physicians, for example.

A more on-the-spot sales organization, such as a medical-supply company, however, is a better match for real-time wireless networking. 'If a doctor or hospital needs same-day service for ordering things like needles and syringes, this just-in-time approach to filling orders' is something for which wireless would be appropriate, says John Ompremcek, vice president of sales for WinSoft Inc., a Denville, N.J.-based systems integrator.

As a case in point, a Titus & Son sales rep recently closed a \$30,000 deal on laboratory instrumentation equipment while commuting home during a traffic jam, after faxing crucial product information to the customer from his car. 'The customer was impressed,' says Titus.

And wireless computing has broadened Titus & Son's customer service. Today, the company can supply customers with pictures of its products, documentation and regulatory information - all accessed and printed with their wireless, pen-based AT&T Eo Personal Communicators. 'It's becoming more of an information resource rather than just an efficiency tool. That is where the power of the system is going to be,' says Titus.

In the Field

Not surprisingly, some of the most vocal users of wireless are the wireless providers themselves - including Ardis and RAM Mobile Data - that have dispatched their own sales forces equipped with wire-free mobile computers. Ardis, for example, uses its own network to support communications among its 300 account representatives, engineers and even customers, says Leslie Berkshire, manager of market development for field sales at Ardis.

RAM Mobile Data's Wireless Messaging Business Unit, too, is practicing

what it preaches. The 12-member unit is awaiting the opening of its new office in the San Francisco Bay area. In the meantime, staff members have kept in touch from their homes and on the road, using the RAM network and San Mateo, Calif.-based RadioMail Corp.'s wireless messaging service.

Reps in RAM's messaging sales unit also communicate wirelessly among themselves and with the home office. 'Our sales reps never have to find a telephone or fall into the death spiral of unreturned voice mail,' says Doug Mallek, vice president of sales for RAM.

The key for efficient sales automation today is moving the sales rep's office out to the field, as close to the customer as possible. 'If I can transact business there, the cost of the sale is less and I will have a more efficient sales force and, therefore, a more profitable company,' says Randy Pritzker, president and CEO of Omicron Consulting, a Philadelphia-based firm with clients in sales automation.

But even the pioneers of wireless admit they can get tangled up in the new technology. 'We have to find a way to make this transparent to the user,' says Titus & Son's Titus. 'Our sales reps don't need to be communications experts; that can get distracting.'

Kelly Jackson Higgins is a free-lance writer based in Stanardsville, Va.

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RAM Mobile Data Inc., New York, offers tiered pricing packages based on volume. A user who sends more than 200 typed pages of text a month, for example, would pay \$135 per month, the rate for unlimited usage.

Hidden Costs?

Any hidden costs associated with wireless service, however, are difficult to identify and track, since users are few and far between and services tend to be customized.

The most widely used remote networking method for salespeople is direct dial -up. Insurance agents, for example, incur an average of \$100 to \$120 per month in dial-up telephone-line charges, says Gene Hengel, director of strategic technologies for Insurance Value Added Network Services, an organization that provides network services for insurance companies.

Dallas-based IVANS is testing Kirkland, Wash.-based McCaw Cellular Communications Inc.'s new cellular data service, AirData, which is based on the Cellular Digital Packet Data (CDPD) standard. Among other applications for the wireless network, IVANS will offer the service to insurance salespeople in the field so that they can supply instant policy information to customers.

'This service has the capability to move data and (provides) adequate response time for on-line transactions,' says IVANS' Hengel. 'The only outstanding question is price,' the details of which the organization is still hashing out.

Hengel says he expects the CDPD service to cost about as much as wired network links. The savings for users will come with productivity gains and customer service improvements, he says.

So far, only a handful of user companies have outfitted their sales forces with wireless networks, and most are hesitant to discuss their applications publicly for fear of losing their competitive edge.

This Cell's for You

Anheuser-Busch Cos. Inc. is among the pioneers cutting the sales-force wires.

The St. Louis-based brewing company plans to begin outfitting 5,000 of its sales reps with analog cellular connections from US West Cellular Inc. and McCaw next month, says Richard Sleight, manager of wholesaler computer systems at Anheuser-Busch. Opting for the more-entrenched analog cellular technology initially, the company plans to migrate to CDPD in the future, says Sleight. Because it's digital, CDPD lets users transmit data more cheaply and reliably than regular cellular phone lines.

Currently in the pilot stage, Anheuser-Busch's analog cellular service connections 'now cost us about \$16 per person over a three-week period,' Sleight says. After the full production implementation begins next month, Sleight expects to cut that bill in half.

'From our sales reps' perspective, it will be cheaper than dropping quarters in a pay phone to send data' from their laptops to the home office.

Anheuser-Busch discovered that cellular was more cost-effective than radio -based wireless technology because of the volume of transmissions the company's sales force sends. 'Our beer orders were about 1- to 1-1/2 -kilobyte files, mostly numbers, which was too much data in a small chunk for Ardis' wireless network,' says Sleight. That network is optimized for larger chunks of data transmitted over a longer period of time, he says.

It's no secret that both radio and cellular technologies have their limitations when it comes to sending large files, especially ones fat with graphics and formatted text. 'You don't want to move big documents over a wireless network,' says Howard Case, vice president of wireless messaging at RAM Mobile Data.

The larger the file, the slower the transmission and the greater the

chance of garble. Even RAM Mobile Data's own sales reps use dial-up lines for files of 1 megabyte or more, says Case.

Anheuser-Busch's Sleight says that although the pilot cellular service has frequently disconnected users on-line during the past month, he isn't concerned. 'We usually get two to three failures out of five attempts, but we just dial again,' he says.

Semi-Wireless Prescription

Tim Titus, vice president of F.D. Titus & Son, a medical-supply company and another pioneering sales user of wireless, plans to provide a mix of circuit-switched cellular and regular network access for its sales force of more than 100 reps by June. The sales reps will send and receive both small and large files from their AT&T Eo Personal Communicators - everything from sales orders to downloads of product information from the company's catalog.

The hybrid service will let the reps opt for the best medium for their transmission. 'It's faster to send one 200-kilobyte file, for example, over wire,' says Titus. 'And (wireless) circuit switching has interference problems.'

Although CDPD is supposed to be immune to such disruptions, Titus and other users say they are concerned that it won't be cost-effective to send large files over CDPD networks. To date, a handful of Titus & Son sales reps have been communicating wirelessly.

But technology for technology's sake doesn't sell well, and many companies are carefully examining the situations where wireless technology makes sense in sales.

Wiring the Right Reps

Wireless access is cost-effective, for example, only in certain types of inventory applications. 'Sales reps aren't going to do line-by-line inventory checking today,' says Robert Gressler, president of Parsippany, N.J.-based integrator Computers at Work, which specializes in automating sales forces. 'The value of doing that is erased by the cost of the wireless access to do it. If they want (line-by-line) inventory, they can download it' by less expensive wired methods, he says.

Some users, like Anheuser-Busch, only now are discovering the importance of real-time networking. The key, industry experts say, is the nature of the sale: If it is a time-sensitive transaction, then wireless is appropriate. Wireless would not necessarily be ideal for a pharmaceutical company representative who is merely distributing prescription drug samples and other products to physicians, for example.

A more on-the-spot sales organization, such as a medical-supply company, however, is a better match for real-time wireless networking. 'If a doctor or hospital needs same-day service for ordering things like needles and syringes, this just-in-time approach to filling orders' is something for which wireless would be appropriate, says John Ompremcek, vice president of sales for WinSoft Inc., a Denville, N.J.-based systems integrator.

As a case in point, a Titus & Son sales rep recently closed a \$30,000 deal on laboratory instrumentation equipment while commuting home during a traffic jam, after faxing crucial product information to the customer from his car. 'The customer was impressed,' says Titus.

And wireless computing has broadened Titus & Son's customer service. Today, the company can supply customers with pictures of its products, documentation and regulatory information - all accessed and printed with their wireless, pen-based AT&T Eo Personal Communicators. 'It's becoming more of an information resource rather than just an efficiency tool. That is where the power of the system is going to be,' says Titus.

In the Field

Not surprisingly, some of the most vocal users of wireless are the wireless providers themselves - including Ardis and RAM Mobile Data - that have dispatched their own sales forces equipped with wire-free mobile computers. Ardis, for example, uses its own network to support communications among its 300 account representatives, engineers and even customers, says Leslie Berkshire, manager of market development for field sales at Ardis.

RAM Mobile Data's Wireless Messaging Business Unit, too, is practicing what it preaches. The 12-member unit is awaiting the opening of its new office in the San Francisco Bay area. In the meantime, staff members have

kept in touch from their homes and on the road, using the RAM network and San Mateo, Calif.-based RadioMail Corp.'s wireless messaging service.

Reps in RAM's messaging sales unit also communicate wirelessly among themselves and with the home office. 'Our sales reps never have to find a telephone or fall into the death spiral of unreturned voice mail,' says Doug Mallek, vice president of sales for RAM.

The key for efficient sales automation today is moving the sales rep's office out to the field, as close to the customer as possible. 'If I can transact business there, the cost of the sale is less and I will have a more efficient sales force and, therefore, a more profitable company,' says Randy Pritzker, president and CEO of Omicron Consulting, a Philadelphia-based firm with clients in sales automation.

But even the pioneers of wireless admit they can get tangled up in the new technology. 'We have to find a way to make this transparent to the user,' says Titus & Son's Titus. 'Our sales reps don't need to be communications experts; that can get distracting.'

Kelly Jackson Higgins is a free-lance writer based in Stanardsville, Va.

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ABSTRACT: Pfizer Inc introduced in early 1990 a 'field force' system for its 1,500-person sales force. The system is based on Gridcase 1520 laptop computers using custom-designed software and PFS: First Choice word processing software. Automating the sales force had been proposed almost two years previously. Pfizer sales people now have instant information on physicians in their sales territories and can send and receive electronic mail messages. An IBM RT PC running AIX is used as the host for uploading and downloading the data.

TEXT:

Pfizer rolls out laptop sales system NEW YORK--Twenty-two months after it was proposed to Pfizer Inc.'s management that the company automate its 1,500-member sales force, the pharmaceuticals giant rolled out its laptop-based "field force" system.

The multimillion-dollar project, headed by John Thorsen, manager of field force systems, came to fruition last month. Now, Pfizer sales representatives have instant access to information about physicians in their sales territories via a Grid Systems Corp. laptop and custom-designed software that facilitate the sales process.

With the Gridcase 1520 laptop in hand, a sales rep in either of Pfizer's two sales divisions can maintain databases and call histories on doctors in given sales territories, map out individual itineraries, send and receive electronic mail messages and use word processing software, PFS: First Choice, from Software Publishing Corp.

Data can be uploaded or downloaded to the sales system host, an IBM Corp. RT PC running AIX, via unattended file transfer over phone lines. With timely data on sales reps' calling activities, Pfizer will be better able to gauge marketing effectiveness.

Twenty-one days after the system was rolled out to Pfizer's entire sales force, Thorsen detailed the system's implementation and provided advice about how a project of this scope could be applied to almost any industry looking to automate its sales force. Thorsen said that, while many industries have already automated their sales staffs, many pharmaceutical companies are just doing that now.

The impetus

Driving the need for an automated sales system was the fact that in 1988 Congress passed a Prescription Drug Marketing Act which, among other things, requires pharmaceutical firms to maintain strict accountability of drug-sample inventories and of drug samples distributed to doctors by reps on sales calls.

The aim of the laptop system was to improve the information collected on drug-sample inventories and on those samples distributed to physicians.

Pfizer gave approval for the system in May 1988, with a short time frame to develop the first pilot system because government regulations took effect in late July. Because of that shortness of time, Pfizer decided to go outside to a third-party vendor to develop the system, instead of developing it internally.

Dendrite Americas, in Warren, N.J., was selected as system developer after a long evaluation process. "Dendrite specializes in sales force automation software for the pharmaceuticals industry," said Thorsen. "Very few of the other vendors evaluated concentrated specifically on our industry and could understand its intricacies."

The Gridcase 1520 was picked after several other laptop offerings from Toshiba, Zenith and Compaq had been evaluated. "Grid's whole philosophy is direct sales, while the other vendors work through dealer

networks," said Thorsen. Pfizer has purchased more than 1,600 Gridcase computers.

The 80286-based Gridcase comes with a 20-Mbyte hard drive, a 2400-bps modem, one floppy drive, a 24-line by 80-character screen and a battery pack. Although Thorsen admitted that, at 12.5 pounds, the Gridcase is not the lightest laptop, two years ago it was the best thing on the foreseeable horizon.

Pfizer's agenda

Thorsen initially began the project by taking a hard look at Pfizer's sales environment. One lesson for a successful project, Thorsen advised, is to learn the sales reps' business and to work with them closely to learn what the reps do. He stressed, "Ask questions over and over again."

Thorsen learned early on that the sales staff has needs different from those of the typical headquarters user. Within Pfizer, there are two sales divisions, with diverse product lines. While the Roerig division targets hospital settings, Pfizer Labs reps typically meet face-to-face with private practitioners in offices. Also, both sales divisions had a mix of either technically savvy sales reps or reps who did not even know how to use a keyboard.

In order to build the system right, Thorsen said teamwork was crucial. Thorsen's systems group met with Dendrite's 15-member project team, Grid systems engineers and the directors of sales administration for both Pfizer Labs and Roerig and their staff members almost daily. Thorsen's team also involved the sales reps in the development process as much and as often as possible. Focus panels, in which a rep from every region participated, were held periodically. "You can't develop a system with blinders on," said Thorsen. "The field felt they were building the system too."

Several prototypes

Throughout the development process, Pfizer was able to present to the sales reps four or five different prototypes of the system with the help of a personal computer-based tool developed at Dan Bricklin's software firm, Garden Software Inc., in Newton, Mass., and called Demo II. Demo II, recently acquired by Sage Software, in Beaverton, Ore., enabled Pfizer to create mock-up screens of the sales system to show the reps for feedback about which information is important and should be presented before the system is committed to code.

A pilot test of the system took place in St. Louis and in Charlotte, N.C., between August 1988 and March 1989, a period longer than initially intended. During that time, the system was upgraded to reflect user feedback and requirements. Then, between March 1989 and January 1990, there was a 10-month training period, with more than 150 sessions.

A three-person team would go to a training site: One person represented Dendrite; another, representing Pfizer sales, could explain and answer questions on policy issues; and a third person was from Thorsen's systems group.

In the two-day training session, the team would introduce to the sales reps the basic hardware and overview system features, such as the physician database, the query facility and the E-mail component.

Now that the first phase of the system is live, Thorsen has no intention of sitting still. It was Pfizer's strategy not to overload the system all at once and not to make it all-inclusive. "You have to crawl before you walk, and walk before you run," said Thorsen. Some future upgrades might include an electronic forms feature, a facility to link spreadsheets to the E-mail system, extensions to the itineraries module, and making the system less keystroke-intensive.

Ongoing process

Thorsen also noted that vital to the project's success is ongoing communication about the system. The group continues to hold quarterly focus panels with sales reps and encourages them to send in written requests for changes.

Thorsen described Pfizer as an entrepreneurial company in the sense that it allowed him, an MBA with only one year's experience with the company, to work very closely with Vita Cassese, vice president of Pharmaceuticals Systems, and Pete Muller, director of Sales and Marketing Systems, on the project. "If one shows drive, Pfizer will acknowledge and award that drive," said Thorsen.

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N. Les Clark, VP of IS and technologies at Marion Merrell Dow Inc. in Kansas City, Mo., backs off from claiming leadingedge status. "But," he asserts, "we'll take what's available and leverage the hell out of it."

That they do. And looking at the \$2.2 billion company's technological innovations, its driving philosophy of always focusing on earnings per share, and its recent alliance with Dow Chemical Co. through a merger with Dow's pharmaceutical arm, Marion Merrell Dow falls within the Top 20 on the IW 500 'Best' survey; in InformationWeek's judgment, it's the company to showcase.

Clark, who reports to chairman and CEO Joseph G. Temple Jr., heads an IS organization that is the offspring of the merger between Marion Laboratories Inc. of Kansas City and Merrell Dow Pharmaceuticals Inc., a Cincinnati-based division that belongs to Dow Chemical Co. While Dow has 67% ownership of the company, the overriding emphasis at Marion Laboratories on individual and group performance measured against earnings per share will remain.

Like most major pharmaceutical firms, Marion Merrell Dow is developing electronic media for filing new drug applications with the U.S. Food and Drug Administration. Instead of raking through truckloads of paper documents supporting a new drug application, Marion Merrell Dow recently began providing optical disks to the FDA for faster application processing. That speeds time to market for new drugs--a valuable advantage.

And in the wake of Eli Lilly & Co.'s acquisition of a Cray-2 from Cray Research Inc. to help with molecular modeling, Marion Merrell Dow is mulling over supercomputing for its own researchers.

But where Marion Merrell Dow's IS group really shines is in the support it extends to its sales force. For example, take this month's national rollout of Grid System Corp.'s GridPad computers to the firm's agents--a controversial move designed to take drug samples out of the hands of Marion Merrell Dow salespeople. Instead of receiving samples during sales calls, doctors will scrawl their signatures on electronic forms provided by the salespeople to order samples.

That delay in getting samples could turn into a competitive disadvantage, Clark admits. But as with all technology innovations at the company, it's a calculated risk. Clark views the GridPads as a logical upgrade from the handheld computers used earlier. But more importantly, it is a response to a new federal law that levies stiff fines for failing to adequately account for drug samples. The GridPad system is intended to provide an automatic record of sample distribution.

Clark downplays the administrative benefits of taking samples away from the sales staff, but an industry consultant--who used to lug samples about--disagrees. "If Marion Merrell Dow has a system of direct shipping of office samples, it's great," says Michael Esposito, a pharmaceutical industry consultant at Arthur D. Little Inc. in Cambridge, Mass. Keeping track of the samples, he recalls, "was an administrative nightmare."

Good salespeople are worth their weight in gold to the company, and Marion Merrell Dow knows it. The company's revenue per sales agent is at least twice that of other pharmaceutical makers, according to industry sources; in terms of profits per employee, it tops the list of IW 500 manufacturing firms at \$66,541. That compares with \$43,471 per employee for the next best pharmaceutical firm on our list, Merck & Co.

But as good as the numbers are, they don't tell the whole story. The company's philosophy is revealing: Every employee is an associate and has stock options. And depending on a year-end review of performance (based on

preset goals), employees receive bonuses based on growth in earnings per share.

"They're very good at selecting sales people for a tough, competitive environment," says Herbert Buchbinder, a senior VP of Kidder, Peabody & Co. in Kansas City, Mo. The company also knows how to penetrate the market by getting into the right peoples' offices, he adds.

This efficiency did not come about by accident. "We used funds for developing technology rather than growing staff," says David Levey, director for strategic planning for the pharmaceutical products division at Marion Merrell Dow and former director for marketing IS.

Levey explains that five years ago, the company set out "to support field sales with as much technology as we could." PCs were given to the salespeople to help them target prospects and assess a territory's potential. "We were the first pharmaceutical company of our size with hundreds of reps nationwide to be fully networked," he claims.

"They just bit the bullet and went with it," says Joseph Macaluso, VP of sales and an owner of Phoenix Call Reporting Inc., the Lincoln Park, N.J., firm that supplied Marion Merrell Dow with its electronic territory management system. While others follow the Mongolian horde theory--if two sales agents are good, 200 are great--he says, Marion Merrell Dow has worked to keep its staff smaller than the competition's.

"Through the use of personal computing, we were able to keep our staff levels a lot lower than other corporations," confirms Jill Goldman, director of corporate IS at Marion Merrell Dow. "At a time when most pharmaceutical companies had 1,000 (sales agents), we had 550."

The new IS department, which was whipped into shape in a quick three months following last December's shareholder vote approving the merger of Marion Laboratories and Merrell Dow, is working to maintain the lean look and earnings-driven perspective of Marion.

"We looked at how we needed to structure the organization and what skills were needed, and reviewed each person individually," says Goldman. The new corporate IS organization, following a number of departures and early retirements, has only 230 people. But there are an additional 185 MIS staffers throughout the corporation's business units. Overall, the annual budget for Marion Merrell Dow's IS efforts is \$80 million.

Since the merger, however, there remains some duplication of systems. The workload serviced by two IBM mainframes, one in Kansas City and one in Cincinnati, will be consolidated by year's end. Both locations house two data centers--one for scientific computing, the other for commercial applications.

The total number of data centers will not change, but since both commercial centers run MVS, the Kansas City center can absorb some of the load from the center in Cincinnati. Because the applications and development software on the two IBM systems is different, however, Goldman says IBM's Prism system will be used to run both MVS systems separately on a single CPU. Software consolidation will be done at a later date.

But the direction for the company's financial applications is already clear to Clark, who is keenly interested in parent Dow's work with a financial software package from West Germany-based SAP AG. "We're watching (Dow) implement global systems in finance and logistics, and the (SAP) finance system is very interesting to us," Clark notes.

"Dow has let us look at its design and asked if we have anything to offer. They're very careful not to close us out," Clark says, adding that he's being very careful "not to slip into the 'we don't need your help' syndrome--we'll take any help we can get, especially from a class organization like Dow."

The SAP package, a hot seller in Europe and recently introduced in the United States by SAP AG's two-year-old American subsidiary, SAP America Inc., has excited a lot of major corporations--among them Eastman Kodak Co., which opted to forgo outsourcing its own applications development in favor of an internal effort revolving around the SAP software (IW, Aug. 13, p. 17).

The SAP package has great appeal to companies with international operations because of its ability to work with multiple currencies and languages. But Clark lets fall the real reason IS chiefs are attracted to the software: "What IS guys like is that it's a sealed package." The base code has to remain inviolate, and that, says Clark, means that users have

to adapt to the software instead of asking IS to change the code.

Redoing code can be a wasteful practice, especially for such generic applications as financial systems, the area where Clark believes the shrink-wrapped software can be applied most easily. He prefers to "conserve forces" for areas where technology can help deliver a more competitive advantage, such as in drug design, regulatory approval systems, sales support, and customized manufacturing control systems. There are no off-the-shelf solutions for these applications, he notes.

While Clark won't junk the existing financial software from Marion Laboratories and Dow's Merrell unit, SAP is definitely the direction he wants to take in the future. The IS chief projects that Marion Merrell Dow could use the same SAP software as Dow and, perhaps, "even wind up as a regional data center" for its parent.

Marion Merrell Dow will also look to piggyback Dow's private global telecommunications network. That would help the company capitalize on the multiple research facilities around the world brought to the merger by Dow. That, says Clark, is "the next big strategic push we see."

--Bruce Caldwell

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